UK MET OFFICE
GLOBAL DATA MONITORING REPORT

August 2005

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1. Introduction

As the WMO-appointed lead centre for monitoring surface marine data, the U.K. Meteorological Office produces monthly statistics on the quality of these observations received at RSMC Exeter. This report includes this information along with statistics for most other types of data. The figures and tables contained herein are presented according to the agreed standards for the exchange of monitoring results.

The report is based on data received at the UK Meteorological Office Headquarters, Exeter in time for inclusion into the appropriate analysis (the current cut-off time is approximately 7.2 hours after each analysis time). The evaluation of data quality is based on comparison with the appropriate 6-hour global model forecast (background) field, although to provide background values valid at the observation time for non-main hour data, time-interpolation of the T+3, T+6 and T+9 forecasts is used; and for sea surface temperature the background field is the analysis from the previous day. Generally, the background field is of high quality except in data sparse areas, tropical regions and areas close to steep orography where care should be taken in interpreting the statistics shown.

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2 Global Data Monitoring Statistics

Ships, Fixed buoys, Platforms and Drifting buoys observations

TABLES 1and 2 contain lists of the stations which are considered to have returned suspect observations of pressure, windspeed, wind direction or sea surface temperature, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 1 and 2 show 10 degree lat/long box average numbers of SHIP/SYNOP and DRIFTER observations received per day throughout the month at Exeter and assimilated into model runs. All data are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Synop Observations

Table 3 contains a list of stations which are considered to have returned suspect observations of Pressure during the month. The criteria for quality control are given in the header page. The reporting practice of each station is included in the list of statistics.

At the UK Met. Office, we monitor SYNOP pressure after it has been interpolated to our Global NWP Model's surface height. For most synoptic stations (about 75%), the surface pressure (at the model surface) is calculated from the reported station-level pressure, or, if this is not available, the height of a standard pressure-level (e.g. 850 hPa or 700 hPa). If neither of these are available, or if the reported station-level pressure is deemed unreliable, the reported mean sea-level pressure is used (about 25% of SYNOPs).

Aircraft observations

Tables 4A (300-150 hPa) and 4B (1000-301 hPa) contain lists of statistics calculated from data received from all airline carriers.

Figures 3A (300-150 hPa) and 3B (1000-301 hPa) show 10 degree lat/long box average numbers of aircraft reports in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS) received per day throughout the month at Exeter and assimilated into model runs. Observations with a vector wind difference (compared with the model background field) of >60 m s^{-1} have been excluded. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Figures 4A-7A (300-150 hPa) and 4B-7B (1000-301 hPa) show wind statistics for AIREP/ASDAR in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS). Observations with a vector wind difference > 60 m s^{-1} have been excluded. Statistics have not been calculated for 10 degree lat/long boxes containing <31 observations.

Figure	Parameter
4	Mean wind vectors
5	Mean observation - background wind vector
6	Mean observation-background speed (m s^{-1})
7	RMS observation-background vector (m s^{-1})

Radiosonde Observations

TABLES 5-7 contain lists of the stations which are considered to have returned suspect observations of geopotential height, vector wind or wind direction, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 8 and 9 show 10 degree lat/long box average numbers of TEMP 500 hPa GEOPOTENTIAL HEIGHT and TEMP/PILOT 300 hPa WIND observations received per day throughout the month at Exeter and assimilated into model runs. Data from all hours are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

APPENDIX I shows details of the gross error limits used in TABLES 5 and 6 and the weights used in the RMS values in TABLE 5.

Satellite Observations

Figures 10-24 show satellite wind statistics for all geostationary satellites. All plots other than **AVAILABILITY** show average data where there are > 10 observations in a 10 degree lat/long box.

Figure	Parameter Plotted	Layer (hPa)
10	Availability/average daily number	701-1000
11	Vector mean wind (observed)	701-1000
12	Observation-background vector wind difference	701-1000
13	Mean observation-background speed differences	701-1000
14	RMS observation-background vector difference	701-1000
15	Availability/average daily number	401-700
16	Vector mean wind (observed)	401-700
17	Observation-background vector wind difference	401-700
18	Mean observation-background speed differences	401-700
19	RMS observation-background vector difference	401-700
20	Availability/average daily number	101-400
21	Vector mean wind (observed)	101-400
22	Observation-background vector wind difference	101-400
23	Mean observation-background speed differences	101-400
24	RMS observation-background vector difference	101-400

Figures 25-39 show sounding statistics from the polar orbitting satellite NOAA-15. Figure 25 shows the mean daily number of ATOVS soundings, and figures 26-39 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
26	Mean	Surface (HIRS8)
27	SD	Surface (HIRS8)
28	Mean	700 (HIRS15)
29	SD	700 (HIRS15)
30	Mean	500-700 (HIRS11)
31	SD	500-700 (HIRS11)
32	Mean	400 (HIRS4)
33	SD	400 (HIRS4)
34	Mean	700 (AMSUA5)
35	SD	700 (AMSUA5)
36	Mean	300 (AMSUA7)
37	SD	300 (AMSUA7)
38	Mean	100 (AMSUA9)
39	RMS	100 (AMSUA9)

Figures 40-54 show sounding statistics from the polar orbitting satellite NOAA-16. Figure 40 shows the mean daily number of ATOVS soundings, and figures 41-54 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
41	Mean	Surface (HIRS8)
42	SD	Surface (HIRS8)
43	Mean	700 (HIRS15)
44	SD	700 (HIRS15)
45	Mean	500-700 (HIRS11)
46	SD	500-700 (HIRS11)
47	Mean	400 (HIRS4)
48	SD	400 (HIRS4)
49	Mean	700 (AMSUA5)
50	SD	700 (AMSUA5)
51	Mean	300 (AMSUA7)
52	SD	300 (AMSUA7)
53	Mean	100 (AMSUA9)
54	RMS	100 (AMSUA9)

Figures 55-69 show sounding statistics from the polar orbitting satellite NOAA-17. Figure 55 shows the mean daily number of ATOVS soundings, and figures 56-69 show mean and standard deviation observation-background differences for brightness temperature for selected channels.

Figure		Weighting function peak (hPa)
56	Mean	Surface (HIRS8)
57	SD	Surface (HIRS8)
58	Mean	700 (HIRS15)
59	SD	700 (HIRS15)
60	Mean	500-700 (HIRS11)
61	SD	500-700 (HIRS11)
62	Mean	400 (HIRS4)
63	SD	400 (HIRS4)
64	Mean	700 (AMSUA5)
65	SD	700 (AMSUA5)
66	Mean	300 (AMSUA7)
67	SD	300 (AMSUA7)
68	Mean	100 (AMSUA9)
69	RMS	100 (AMSUA9)

N.B. All satellite sounding data is bias-corrected (and thinned) before being assimilated in the UKMO NWP model.

3 Composite Observing Systems for the North Atlantic (COSNA)

This section shows statistics for upper air (radiosonde and aircraft) and surface (drifter) data for the North Atlantic area for data received at Exeter during the month.

TABLE 8 shows quality statistics for **Mean Sea-level Pressure, Windspeed and Wind Direction** received at Exeter in DRIFTER code during the month for the area 10°N - 80°N, 85°W - 0°W.

TABLE 9 shows quality statistics for **Temperature and Vector Wind** received at Exeter from aircraft during the month for the area 40°N - 70°N, 60°W - 0°W.

Table 10 - 13 show quality statistics **(Geopotential Height and Windspeed at 100 and 500 hPa)** for all TEMPSHIPS in the area bounded by 0°N - 90°N, 100°W - 40°E and selected TEMP stations within the same area.

Revisions

1. May 95 Monitoring statistics for NOAA-11 removed. Figures 25-27 now show data for NOAA-12
2. May 95 Notes giving details of observations included in wind direction statistics clarified and corrected.
3. August 95 Monitoring statistics for NOAA-14 added with figures 28-30.
4. February 96 Monitoring statistics for GOES-7 have been replaced by statistics for GOES-8 and GOES-9.
5. April 96. 500 km and 120 km SATEMs replaced by 120 km resolution temperature profiles produced locally from the radiances disseminated by NESDIS.
6. February 97 Monitoring statistics for Meteosat 5 have been replaced by statistics for Meteosat 6.
7. Sept 97 Monitoring statistics for NOAA-12 removed. Figures 25-27 now show data for NOAA-11
8. January 1998. Increase in resolution of UKMO global forecast model.
9. April 1998. GOES winds ceased on 2nd March 1998, and were replaced with GOES high resolution winds from 15th.
10. June 1998. Monitoring statistics for Meteosat-6 were replaced by monitoring statistics for Meteosat-7, from 3rd June.
11. June 1998. Corrections in our processing of radiosonde data resulted in a decrease in the number of 500hPa geopotential heights in Figure 8 of about 230 per 24 hours (compared with previous reports), and a small increase in the number of 300hPa winds in Figure 9.
12. July 1998. Meteosat-5 began transmitting winds from 2nd July, at 63 degrees East (over the Indian ocean), and this data is included in the statistics.
13. July 1998. GOES-9 (at 135W) was replaced mid-month by GOES-10 (initially at 105W, moving towards 135W).
14. February 1999. Problems with NOAA-11, and TOVS data ceased to be assimilated from 26 February.
15. March 1999. UKMO introduced 3-D VAR assimilation system on 29 March, and also began assimilating ATOVS data from NOAA-15.
16. May 1999. Included statistics for ATOVS sounding data from NOAA-15.
17. September 1999. Included statistics for high resolution visible winds from Meteosat-5 and Meteosat-7.
18. October 1999. The 3-D VAR assimilation system was upgraded on 19 October, including improvements in the assimilation of ATOVS radiances, use of SSM/I surface wind speed, an improvement in the calculation of surface pressure for SYNOPs, and thinning and revision of observation errors of aircraft data.
19. November 1999. High resolution visible winds from Meteosat-5 and Meteosat-7 removed until used operationally.
20. April 2000. Aireps in Table 4 and Figures 3-7 split into ranges 300-150 hPa (A) and 1000-301 hPa (B).
21. September 2000. Corrected an error affecting the mean positions of a minority of buoys in Table 2.
22. November 2000. An error in the production of Table 6 was corrected. Previously, some sondes with suspect vector winds were being missed.
23. April 2001. Included statistics for ATOVS sounding data from NOAA-16.
24. May 2001. Included statistics for sea surface temperatures from marine surface observations.
25. December 2002. Included statistics for ATOVS sounding data from NOAA-17.
26. December 2002. Meteosat-7 and Meteosat-5 SATOB winds replaced by higher resolution BUFR-coded winds.
27. November 2003. Included temperature and relative humidity statistics for ships, fixed buoys and platforms in Table 1.
28. November 2003. NOAA 17 statistics no longer available due to malfunction of the AMSU-A instrument.

TABLE 1

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SHIPS, FIXED BUOYS AND PLATFORMS
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for ships, fixed buoys and platforms.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours

Elements monitored
:Mean sea level pressure (hPa).
:Wind speed (m s^{-1}).
:Wind direction (Degrees).
:Air temperature (Degrees C).
:Relative Humidity (%).
:Sea surface temperature (Degrees).

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:PGE :Percentage of observations with gross errors.

:%REJ :Percentage of observations flagged excluding those with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. a positive bias indicates the wind observation is veered to the background.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT
:15 hPa (pressure)
:25 m s^{-1} (vector wind)
:15 degrees (air temperature)
:10 degrees (sea surface temperature)

SELECTION CRITERIA :NOBS ≥ 20 , and one or more of the following:

1.|bias|	≥ 4 hPa	(pressure),
	≥ 5 m s^{-1}	(wind speed),
	≥ 30 degrees	(direction).
	≥ 3 degrees	(sea surface temperature).
	≥ 4 degrees	(air temperature)
	≥ 15%	(relative humidity)
2.SD	≥ 6 hPa	(pressure),
	≥ 80 degrees	(direction).
	≥ 5 degrees	(sea surface temperature).
	≥ 6 degrees	(air temperature)
	≥ 25%	(relative humidity)
3.PGE	≥ 25	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
DBUQ	P	47	0	53	1.5	4.1	4.4
DCFG2	P	38	0	53	1.3	4.3	4.4
DGHX	P	29	0	14	0.7	5.1	5.2
DHEE	P	56	0	38	1.1	4.1	4.2
HQTEST	P	222	0	0	0.6	-12.0	12.0
H3VT	P	46	0	30	2.6	4.0	4.8
H8JI	P	31	0	39	1.0	4.1	4.2
KS049	P	241	0	1	0.8	-4.1	4.2
PCFT	P	27	0	93	0.6	5.0	5.0
SYAQ	P	22	0	91	1.4	5.2	5.4
UANA	P	48	0	31	2.6	-4.0	4.7
UBDU	P	36	0	100	1.6	-4.5	4.7
UCJL	P	44	9	100	3.7	-4.6	5.9
VVKV	P	34	0	0	0.9	5.5	5.5
V2AC9	P	50	0	54	1.9	-4.6	4.9
V2FY	P	68	0	0	0.9	4.2	4.3
V2GR	P	33	0	0	1.1	4.5	4.7
V7EB7	P	26	0	100	0.6	4.2	4.3
WADZ	P	61	48	100	2.4	13.5	13.8
WCX5321	P	26	4	100	2.5	-6.0	6.5
WCY2853	P	46	0	20	1.5	4.2	4.5
ZCBN9	P	70	0	1	1.2	4.3	4.4
3FMV4	P	22	0	77	1.4	4.6	4.8
9VIC4	P	48	0	4	1.9	4.2	4.6

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
C6JD7	SPEED	33	3	36	4.1	8.5	9.5
ELVP2	SPEED	50	0	100	7.6	8.6	11.5
ELXT8	SPEED	46	13	59	4.5	7.2	8.5
HPOG	SPEED	25	28	48	3.6	4.2	5.5
JPPO	SPEED	32	3	100	5.2	7.1	8.8
KRGB	SPEED	580	10	46	6.6	7.5	10.0
LAJV4	SPEED	64	0	44	6.6	5.7	8.7
PBFC	SPEED	42	0	100	3.9	5.2	6.5
PBHU	SPEED	38	0	18	5.1	7.0	8.6
VRUR7	SPEED	36	0	6	4.9	5.9	7.7
V2AI7	SPEED	87	0	9	4.4	6.3	7.7
3FZM6	SPEED	38	0	100	5.0	5.7	7.5

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8CG2	DIRN.	20	0	0	41.9	-32.3	52.9
A8DO8	DIRN.	27	4	0	82.1	-14.8	83.4
ELXT8	DIRN.	23	26	0	111.3	5.2	111.4
JPPO	DIRN.	20	5	0	72.5	-50.3	88.3
KS044	DIRN.	27	0	0	39.4	-70.8	81.1
PCPR	DIRN.	31	0	0	50.2	39.7	64.0
23092	DIRN.	65	0	0	18.4	-52.0	55.2
23100	DIRN.	88	0	0	46.0	-54.8	71.5

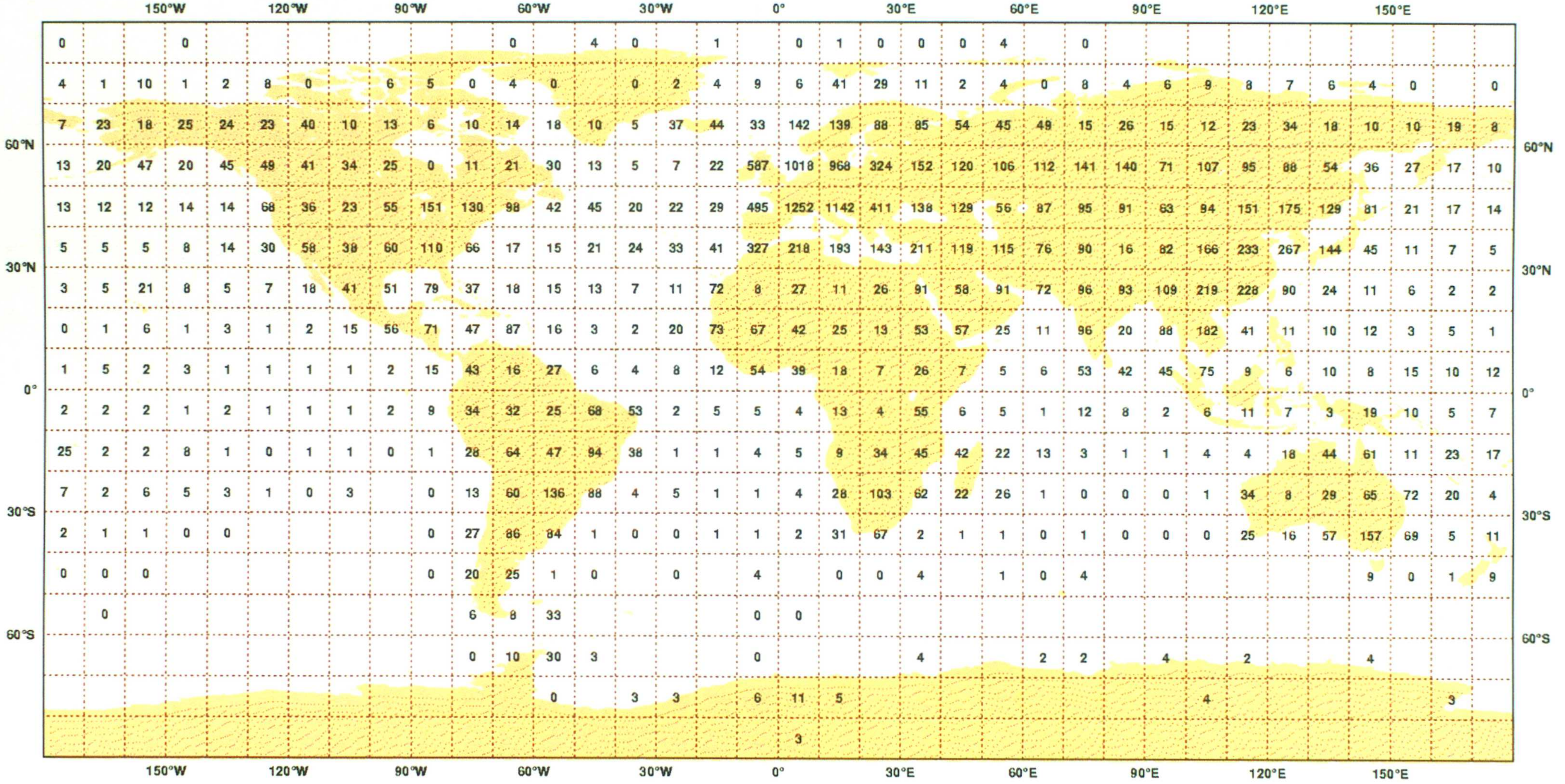
IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
KS044	T	110	92	100	6.5	-9.4	11.4
UCNJ	T	22	0	100	2.9	4.0	4.9
UCTP	T	91	0	100	2.1	5.4	5.8
UGGA	T	41	0	100	2.2	4.2	4.7
WCW9126	T	103	12	100	3.1	10.6	11.1
WXJ63	T	226	9	100	3.4	9.2	9.8
44034	T	615	0	100	1.2	-4.0	4.2
45141	T	717	3	100	2.1	9.9	10.1
45150	T	719	2	100	2.4	8.0	8.3
46027	T	241	0	100	1.9	-4.1	4.5

46053	T	240	0	100	4.4	-4.0	5.9
46081	T	721	4	100	2.2	9.9	10.2
46088	T	460	10	100	4.1	-6.4	7.6
46091	T	218	4	100	4.4	-5.9	7.4
46092	T	205	0	100	4.2	-5.7	7.1

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8FZ5	RH	71	0	100	18.9	-21.8	28.8
DBFH	RH	324	0	100	8.8	16.9	19.1
FNAT	RH	74	0	100	5.4	16.3	17.2
HOMF	RH	48	0	100	7.2	-17.5	18.9
OXYH2	RH	28	0	100	14.6	-24.0	28.1
P3JA9	RH	21	0	100	11.7	-21.5	24.5
V2AW5	RH	43	0	100	9.9	18.2	20.7
46087	RH	455	0	100	12.2	17.2	21.1
46088	RH	460	0	100	22.7	33.6	40.6

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A3BN5	SST	28	0	43	1.7	-3.1	3.5
A8AX4	SST	21	0	24	2.5	-3.1	4.0
A8BZ6	SST	65	0	100	2.9	-3.6	4.6
A8CB4	SST	20	0	100	1.0	-3.0	3.2
CGHL	SST	37	0	65	2.6	3.5	4.3
CG2522	SST	55	73	331	0.5	9.3	9.3
C6RJ6	SST	36	0	100	0.6	-3.2	3.2
DCCN2	SST	44	0	48	0.9	-3.8	3.9
ELSM9	SST	73	3	97	1.2	-6.4	6.5
ELXU2	SST	20	0	55	2.9	-3.7	4.7
KRGB	SST	628	67	86	3.1	-1.3	3.4
KRHX	SST	38	0	39	2.4	-3.0	3.8
KRNJ	SST	53	0	45	1.0	-3.4	3.6
KS049	SST	229	0	104	2.7	-4.1	4.9
S6IW	SST	42	0	100	1.3	-4.5	4.7
UCJO	SST	22	0	27	1.6	-3.0	3.4
UFJC	SST	20	0	10	0.8	-3.6	3.6
UGGA	SST	43	100	100			
VVKV	SST	33	0	100	0.8	3.6	3.6
V2AC6	SST	23	0	100	1.0	3.8	3.9
WZJD	SST	32	0	100	0.8	-3.2	3.3
23094	SST	52	0	100	0.7	-3.1	3.2
3FKM8	SST	38	3	100	2.0	-4.7	5.1
3FPA6	SST	82	0	100	1.9	4.8	5.2
44034	SST	615	0	88	0.8	-4.0	4.0
45141	SST	710	100	100			
45145	SST	691	100	100			
45150	SST	711	54	100	0.5	9.0	9.0
45158	SST	362	0	91	0.9	4.3	4.4
9HCH7	SST	55	0	100	0.6	3.8	3.9

Figure 1. SHIP/SYNOP mean daily count. AUGUST 2005
All hours
Global average number of observations in 24 hours = 20605



0			0								0		4	0		1		0	1	0	0	0	4		0										
4	1	10	1	2	8	0		6	5	0	4	0		0	2	4	9	6	41	29	11	2	4	0	8	4	6	9	8	7	6	4	0		0
7	23	18	25	24	23	40	10	13	6	10	14	18	10	5	37	44	33	142	139	88	85	54	45	49	15	26	15	12	23	34	18	10	10	19	8
13	20	47	20	45	49	41	34	25	0	11	21	30	13	5	7	22	587	1018	968	324	152	120	106	112	141	140	71	107	95	88	54	36	27	17	10
13	12	12	14	14	68	36	23	55	151	130	98	42	45	20	22	29	495	1252	1142	411	138	129	56	87	95	91	63	94	151	175	129	81	21	17	14
5	5	5	8	14	30	58	38	60	110	66	17	15	21	24	33	41	327	218	193	143	211	119	115	76	90	16	82	166	233	267	144	45	11	7	5
3	5	21	8	5	7	18	41	51	79	37	18	15	13	7	11	72	8	27	11	26	91	58	91	72	96	93	109	219	228	90	24	11	6	2	2
0	1	6	1	3	1	2	15	56	71	47	87	16	3	2	20	73	67	42	25	13	53	57	25	11	96	20	88	182	41	11	10	12	3	5	1
1	5	2	3	1	1	1	1	2	15	43	16	27	6	4	8	12	54	39	18	7	26	7	5	6	53	42	45	75	9	6	10	8	15	10	12
2	2	2	1	2	1	1	1	2	9	34	32	25	68	53	2	5	5	4	13	4	55	6	5	1	12	8	2	6	11	7	3	19	10	5	7
25	2	2	8	1	0	1	1	0	1	28	64	47	94	38	1	1	4	5	9	34	45	42	22	13	3	1	1	4	4	18	44	61	11	23	17
7	2	6	5	3	1	0	3		0	13	60	136	88	4	5	1	1	4	28	103	62	22	26	1	0	0	0	1	34	8	29	65	72	20	4
2	1	1	0	0					0	27	86	84	1	0	0	1	1	2	31	67	2	1	1	0	1	0	0	0	25	16	57	157	69	5	11
0	0	0							0	20	25	1	0		0		4		0	0	4		1	0	4							9	0	1	9
	0									6	8	33					0	0																	
										0	10	30	3				0				4			2	2		4		2			4			
												0		3	3		6	11	5									4						3	
																		3																	

TABLE 2

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - DRIFTING BUOYS
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for drifting buoys.
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		: All hours
Elements monitored		:Mean sea level pressure (hPa). :Wind speed (m s^{-1}). :Wind direction (degrees). :Sea surface temperature (degrees).
Parameters monitored		
	:NOBS	:Number of observations received excluding duplicates.
	:PGE	:Percentage of observations with gross errors.
	:%REJ	: Percentage of observations flagged excluding those with gross errors
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors. **N.B. a positive bias indicates the wind observation is veered to the background.**
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.
GROSS ERROR LIMIT	:15 hPa :25 m s^{-1} :10 degrees	(pressure) (vector wind) (sea surface temperature)

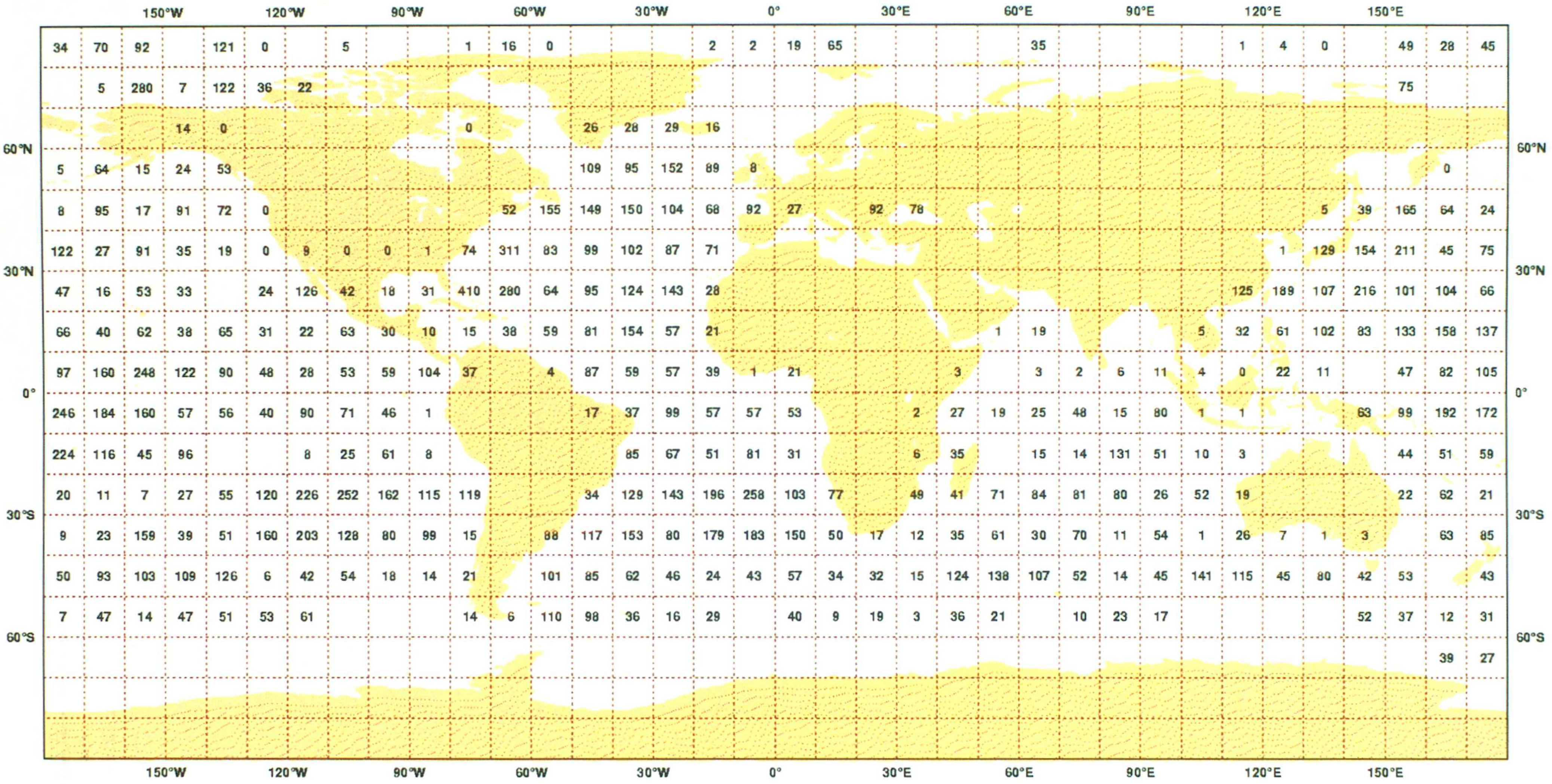
SELECTION CRITERIA :	NOBS	≥ 20 , and one or more of the following:	
	1.|bias|	≥ 4 hPa	(pressure),
		≥ 5 m s^{-1}	(wind speed),
		≥ 30 degrees	(direction).
		≥ 3 degrees	(sea surface temperature).
	2.SD	≥ 6 hPa	(pressure),
		≥ 80 degrees	(direction).
		≥ 5 degrees	(sea surface temperature).
	3.PGE	≥ 25.	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
14930	-5.4	69.1	P	674	79	100	1.7	-12.5	12.7
15904	-34.0	18.6	P	245	0	100	0.8	-5.0	5.1
17506	-56.6	22.8	P	382	39	69	6.7	-2.2	7.1
17905	-55.4	79.9	P	817	15	100	6.4	0.0	6.4
21944	42.4	151.6	P	116	91	100	2.9	-11.6	11.9
21954	43.9	161.2	P	108	64	75	5.9	3.6	6.9
25522	84.2	65.0	P	1065	89	100	7.4	5.0	8.9
25571	81.6	-62.7	P	24	100	100			
41942	31.3	-101.3	P	110	28	58	3.3	-3.1	4.5
46566	51.8	-160.3	P	373	25	49	2.9	2.4	3.8
48536	80.9	-105.3	P	52	83	100	8.2	0.3	8.2
48572	76.8	-149.0	P	51	100	100			
52528	9.4	132.7	P	34	100	100			
55934	-57.5	-153.5	P	43	100	100			
56527	-37.6	144.9	P	64	100	100			
61557	41.1	29.1	P	113	34	87	7.9	0.2	7.9
71544	-26.1	138.2	P	43	98	100	0.0	-9.2	9.2

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
15502	-16.6	-11.0	SST	575	0	100	0.3	-3.2	3.2
15504	-15.1	-14.3	SST	594	0	100	0.1	-3.5	3.5
15510	-12.7	-20.6	SST	621	0	100	0.1	-3.6	3.6
17559	-34.1	-3.7	SST	785	100	100			
22625	18.6	121.0	SST	245	0	100	1.6	-5.5	5.7
31551	-40.8	-53.7	SST	1166	0	58	1.7	3.1	3.6
32538	-5.8	-139.7	SST	651	0	100	0.3	-4.1	4.1
32620	-6.1	-148.2	SST	636	0	100	0.1	-4.1	4.1
33684	-39.9	-48.9	SST	825	0	82	1.4	-3.3	3.6
41912	32.6	-66.7	SST	825	0	100	0.5	-4.0	4.0
43555	30.2	-113.9	SST	223	0	100	0.7	5.7	5.8
43558	30.1	-113.9	SST	214	0	100	0.7	5.4	5.4
46972	20.6	128.0	SST	315	0	100	0.5	5.1	5.1
51743	-0.9	-164.9	SST	608	0	100	0.3	-4.6	4.6
51747	8.0	-135.4	SST	612	0	100	0.2	-4.1	4.1
51748	-5.8	-170.9	SST	675	0	100	0.2	-4.2	4.2
51751	6.9	-143.4	SST	651	0	100	0.2	-3.9	3.9
51752	-8.8	-161.9	SST	629	0	100	0.1	-4.5	4.5
52528	9.4	132.7	SST	34	0	100	0.1	6.9	6.9
56544	-33.6	115.0	SST	202	1	78	2.5	-4.4	5.1

Figure 2. DRIFTER mean daily count. AUGUST 2005
All hours
Global average number of observations in 24 hours = 22326



34	70	92		121	0		5			1	16	0				2	2	19	65					35					1	4	0		49	28	45
	5	280	7	122	36	22																											75		
			14	0						0			26	28	29	16																			
5	64	15	24	53									109	95	152	89	8																	0	
8	95	17	91	72	0						52	155	149	150	104	68	92	27		92	78										5	39	165	64	24
122	27	91	35	19	0	9	0	0	1	74	311	83	99	102	87	71														1	129	154	211	45	75
47	16	53	33		24	126	42	18	31	410	280	64	95	124	143	28													125	189	107	216	101	104	66
66	40	62	38	65	31	22	63	30	10	15	38	59	81	154	57	21							1	19				5	32	61	102	83	133	158	137
97	160	248	122	90	48	28	53	59	104	37		4	87	59	57	39	1	21				3		3	2	6	11	4	0	22	11		47	82	105
246	184	160	57	56	40	90	71	46	1				17	37	99	57	57	53			2	27	19	25	48	15	80	1	1			63	99	192	172
224	116	45	96			8	25	61	8					85	67	51	81	31			6	35		15	14	131	51	10	3				44	51	59
20	11	7	27	55	120	226	252	162	115	119			34	129	143	196	258	103	77		49	41	71	84	81	80	26	52	19				22	62	21
9	23	159	39	51	160	203	128	80	99	15		88	117	153	80	179	183	150	50	17	12	35	61	30	70	11	54	1	26	7	1	3		63	85
50	93	103	109	126	6	42	54	18	14	21		101	85	62	46	24	43	57	34	32	15	124	138	107	52	14	45	141	115	45	80	42	53		43
7	47	14	47	51	53	61				14	6	110	98	36	16	29		40	9	19	3	36	21		10	23	17					52	37	12	31
																																		39	27

TABLE 3

MONITORING OF LAND SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SYNOPS & AUTOSYNOPS
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for synops & autosynops.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00, 06, 12, 18 UTC
Elements monitored		:Surface pressure (hPa).
Parameters monitored	:HT(m)	:Station height (in metres) as given in WMO No. 9 Vol A
	:RP	:Pressure reporting practice M=mean sea level pressure (hPa) reported. S=Station level pressure reported. 8=Geopotential height (m) of 850 hPa surface reported. 7=Geopotential height (m) of 700 hPa surface reported.
	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:%REJ	:Percentage of observations flagged excluding those with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.
GROSS ERROR LIMIT	:15 hPa	(pressure)
SELECTION CRITERIA	:NOBS	≥ 20 ,and one or more of the following:
	1.|bias|	≥ 4 hPa
	2. SD	≥ 6 hPa
	3.PGE	≥ 25.

N.B. For stn ht ≥ 500m, mslp is that calculated from station level pressure where available.
For stn ht < 500m, mslp is that as reported by the station where available.

SUSPECT SYNOPS (PRESSURE) BY WMO REGION AUG 2005

WMO REGION 1:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
60320	35.9N	5.4W	2	MS	56	0	0	0	1.4	-8.7	8.8
60423	36.3N	8.0E	680	S8	87	87	100	0			
62056	32.8N	21.9E	625	S8	100	1	1	4	2.4	-5.3	5.8
63160	10.4N	45.0E	9	M	22	3	14	0	1.0	-4.1	4.2
63671	1.8N	40.1E	244	M	104	0	0	0	0.6	-4.4	4.4
63801	4.9S	29.6E	882	S8	37	1	3	0	1.3	7.2	7.3
63881	8.0S	31.6E	1923	S	39	2	5	5	0.5	13.2	13.2
68014	19.6S	18.1E	1411	S8	79	0	0	0	0.6	-7.5	7.5
68030	18.5S	25.6E	1071	S8	82	1	1	0	4.1	9.2	10.1
68102	19.9S	16.4E	1343	S8	109	0	0	0	0.5	5.8	5.8
68300	26.6S	15.1E	16	S	105	19	18	0	0.6	-13.9	13.9
68312	26.5S	18.1E	1067	S8	76	0	0	0	0.6	4.5	4.5
68396	26.5S	31.3E	641	S8	56	0	0	0	1.1	4.7	4.8
68575	30.0S	30.0E	1175	S8	120	120	100	0			

WMO REGION 2:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
30554	54.5N	113.6E	995	MS	120	0	0	0	0.8	11.4	11.4
31534	50.4N	131.0E	230	MS	119	0	0	81	0.8	-4.7	4.8
36982	41.9N	78.2E	3635	S7	99	1	1	2	1.1	5.6	5.7
38565	40.6N	65.7E	485	MS	119	96	81	0	0.7	-0.8	1.1
38846	38.4N	70.0E	1437	S8	97	3	3	0	1.1	-6.6	6.7
40435	27.0N	44.1E	991	MS	61	0	0	0	0.8	7.5	7.5
40700	39.6N	47.9E	45	MS	102	0	0	0	0.7	-5.2	5.2
40713	37.4N	46.3E	1475	MS	104	38	37	0	0.4	14.5	14.5
40726	36.8N	45.7E	1384	MS	105	0	0	0	0.9	4.3	4.4
40741	36.5N	61.2E	235	MS	106	0	0	0	0.6	-4.9	4.9
40743	36.2N	57.7E	978	MS	106	0	0	1	0.8	4.6	4.7
40780	33.6N	46.4E	1362	MS	104	0	0	0	1.0	5.2	5.3
40854	29.1N	58.4E	1067	MS	104	0	0	0	0.6	11.2	11.2
41252	23.4N	56.5E	244	MS	52	0	0	0	0.7	-8.9	8.9
41254	23.1N	57.6E	1755	S8	117	117	100	0			
41259	23.1N	57.2E	3009	S7	102	0	0	0	1.0	4.2	4.3
41396	16.0N	48.9E	700	MS	55	2	4	4	1.3	4.9	5.1
41466	13.7N	44.1E	1402	8	59	0	0	2	1.5	-5.8	6.0
41494	12.6N	53.9E	47	M	22	0	0	9	1.4	-4.2	4.4
44416	28.6N	81.6E	720	MS	78	6	8	4	1.5	4.7	4.9
47022	40.8N	128.2E	1224	S	69	0	0	0	0.9	5.1	5.2
47678	33.1N	139.8E	79	MS	120	0	0	0	0.6	-8.4	8.4
48924	21.1N	101.5E	644	S	44	0	0	0	0.7	11.3	11.3
48925	20.7N	102.0E	550	S	51	3	6	2	0.9	-9.9	9.9
48938	19.2N	101.7E	326	MS	56	39	70	0	0.3	14.6	14.6
48957	14.8N	106.8E	105	MS	39	0	0	23	0.9	4.0	4.1
50727	47.2N	119.9E	1028	MS	120	0	0	0	0.5	4.0	4.0
50978	45.3N	130.9E	234	MS	120	0	0	0	0.6	-5.5	5.5
52866	36.6N	101.8E	2262	S	120	0	0	0	0.8	-4.0	4.1
53646	38.3N	109.8E	1058	MS	121	0	0	0	0.6	-11.6	11.6
56462	29.0N	101.5E	2994	S	121	0	0	0	0.8	8.6	8.6
56768	25.0N	101.5E	1773	S	121	0	0	0	0.6	-5.2	5.2
57816	26.6N	106.7E	1074	MS	120	99	83	0	0.2	-14.6	14.6
59663	21.8N	112.0E	22	MS	120	0	0	0	0.6	-7.6	7.6

WMO REGION 3:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS

82181	2.0S	54.1W	146	MS	88	0	0	0	0.9	5.3	5.4
82586	5.2S	39.3W	212	MS	89	0	0	0	0.9	-5.2	5.3
82704	7.6S	72.7W	170	MS	92	1	1	1	1.2	-4.5	4.7
83235	12.4S	46.4W	604	MS	91	0	0	0	0.7	6.1	6.1
83332	14.1S	46.4W	826	MS	90	9	10	0	0.6	13.9	13.9
83470	17.9S	50.9W	727	MS	88	2	2	5	1.3	-5.9	6.0
83531	18.6S	46.5W	940	MS	92	0	0	0	0.6	-7.2	7.2
83676	21.1S	49.0W	536	M	27	1	4	70	0.8	-4.7	4.8
83836	25.5S	50.6W	837	MS	92	0	0	1	1.0	-4.8	4.9
83970	31.3S	50.9W	4	M	62	0	0	63	2.4	-4.5	5.1
84425	5.9S	76.1W	179	MS	24	0	0	0	1.0	4.4	4.5
84452	6.8S	79.8W	29	MS	110	0	0	0	0.7	6.2	6.2
84455	6.5S	76.4W	281	MS	81	0	0	0	1.4	7.1	7.2
84472	7.1S	78.5W	2620	S	55	0	0	0	0.7	-5.6	5.6
84474	7.2S	76.7W	350	S	24	0	0	0	1.1	8.9	9.0
84501	8.1S	79.0W	26	MS	85	0	0	0	0.6	4.7	4.7
84686	13.6S	72.0W	3248	S	109	0	0	0	0.9	-4.3	4.4
84688	13.7S	73.4W	3444	S	43	0	0	0	0.4	-12.9	12.9
84720	14.9S	75.0W	567	MS	54	0	0	0	0.7	4.7	4.8
84782	18.1S	70.3W	468	MS	85	0	0	0	1.1	5.5	5.6
85140	14.3S	67.4W	140	MS	60	0	0	0	0.7	6.9	6.9
85264	18.5S	64.1W	1998	S	58	58	100	0			
85312	19.8S	63.9W	992	S	50	3	6	0	1.5	-12.0	12.1
85406	18.3S	70.3W	55	M	118	0	0	0	0.9	5.2	5.3

WMO REGION 4:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
71060	52.5N	116.1W	230	MS	118	118	100	0			
71181	47.1N	55.3W	29	MS	120	0	0	0	0.6	-5.7	5.7
71581	54.5N	128.6W	215	MS	119	99	83	0	1.8	-12.8	12.9
71979	53.8N	118.4W	1542	MS	88	0	0	0	0.6	8.6	8.6
72327	36.1N	86.7W	182	MS	118	0	0	0	0.6	4.2	4.2
76055	31.0N	114.9W	440	MS	34	34	100	0			
76225	28.6N	106.1W	1435	MS	55	0	0	0	0.8	-4.4	4.5
76382	25.5N	103.5W	1124	MS	56	0	0	0	0.7	4.3	4.4
76543	22.0N	98.8W	104	MS	56	0	0	2	1.0	9.2	9.3
76658	19.2N	103.7W	494	MS	32	0	0	0	0.9	5.8	5.9
76683	19.3N	98.3W	2248	MS	60	0	0	0	0.6	4.0	4.0
76687	19.5N	96.9W	1389	MS	72	0	0	0	0.6	4.1	4.1
76762	17.5N	99.5W	1265	MS	73	1	1	0	0.7	6.2	6.2
76843	16.8N	93.1W	528	MS	99	0	0	0	0.7	-4.6	4.7
78588	17.2N	87.5W	-284	M	120	120	100	0			
78655	14.0N	89.6W	660	MS	76	0	0	1	1.0	4.4	4.5

WMO REGION 5:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
92010	6.1S	145.4E	1587	M	26	1	4	0	0.6	9.8	9.8
94130	14.8S	131.9E	120	MS	120	0	0	0	0.7	5.3	5.3
96505	3.7N	115.7E	-9999	8	53	52	98	0	0.0	-1.6	1.6
97284	8.6S	120.5E	1170	S8	80	0	0	0	0.6	4.3	4.3
97378	10.7S	123.1E	1	MS	35	34	97	0	0.0	-14.8	14.8

WMO REGION 6:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
01360	61.9N	7.9E	711	MS	115	0	0	0	0.6	5.6	5.6
06239	54.9N	44.7E	49	MS	359	24	7	0	6.0	0.9	6.1
08912	42.9N	0.8W	1434	MS	22	22	100	0			
08922	42.8N	0.2W	1660	MS	21	21	100	0			
10850	48.8N	10.7E	457	MS	359	0	0	0	0.4	-5.5	5.5

11116	47.5N	10.8E	870	MS	58	0	0	0	0.6	4.4	4.4
13269	44.3N	19.9E	176	MS	119	2	2	2	0.7	7.6	7.6
14554	44.9N	18.4E	136	S	59	1	2	0	0.8	-13.2	13.2
16344	39.3N	16.4E	1710	S8	305	0	0	0	1.1	5.0	5.1
17270	37.1N	38.8E	547	MS	120	0	0	100	0.6	9.4	9.4
17521	35.2N	33.5E	285	MS	112	112	100	0			

ANTARCTIC:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89004	71.7S	2.8W	815	MS	103	3	3	9	1.9	-8.3	8.5
89257	75.4S	59.9W	40	S	786	0	0	0	2.0	-8.5	8.7
89262	67.0S	60.6W	17	S	345	0	0	0	1.2	-4.6	4.8
89266	72.2S	60.2W	91	S	339	257	76	0	1.1	-4.8	4.9
89512	70.8S	11.8E	140	MS	120	0	0	1	1.7	-4.9	5.2
89610	65.9S	113.1E	90	S	347	0	0	0	1.4	-8.9	9.0
89614	66.7S	111.5E	500	S	345	345	100	0			
89744	74.0S	43.1E	3353	S	346	0	0	0	0.6	7.5	7.5
89767	70.9S	69.9E	84	S	120	0	0	0	1.8	-4.3	4.7
89769	78.5S	168.4E	50	S	834	0	0	0	2.1	-4.3	4.8
89811	66.7S	112.8E	1366	S	351	0	0	0	1.6	-5.9	6.1
89868	79.9S	170.0E	60	S	350	0	0	0	1.3	-4.7	4.9

TABLE 4A

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP $\geq$ 20

NB : All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS".

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAH	3178	0	46	1.1	0.3	3156	0	46	0	3.9	0.4
AAL	10717	0	23	1.3	0.1	10303	0	23	0	4.8	0.2
AAR	782	0	3	1.5	-0.6	775	0	4	0	7.5	0.1
ABD	33	6	15	1.3	-0.8	35	0	9	0	4.9	-0.2
ACA	4416	0	8	1.5	-0.1	3614	0	8	0	5.8	0.5
ACI	107	0	10	1.0	0.5	107	0	10	0	4.8	0.6
AEA	1820	1	2	1.3	0.2	1521	0	2	0	6.2	0.6
AFL	669	0	2	1.9	0.1	385	0	2	0	6.5	0.8
AFR	6047	0	3	1.3	0.2	5927	0	3	0	5.4	0.5
AFZ	4379	0	11	1.6	1.2	4379	0	11	0	7.1	1.0
AJM	237	0	1	1.1	-0.2	207	0	2	0	6.6	0.6
AJX	366	0	5	1.7	1.0	360	0	7	0	7.5	0.9
AMT	2493	0	43	0.9	-0.1	2475	0	43	0	4.4	-0.3
AMX	604	0	2	1.6	0.3	542	0	3	0	7.2	0.2
ANA	34	0	6	2.0	-0.2	33	3	9	0	7.1	0.6
ANZ	6665	0	32	1.3	0.1	6621	0	32	0	7.0	0.4
ARG	53	2	26	1.6	0.0	48	0	25	0	6.6	1.9
ATN	99	1	100	3.3	-1.1	84	0	12	0	12.5	2.0
AUA	593	0	2	1.6	0.5	567	0	1	0	4.7	0.4
AVA	422	0	2	1.5	0.3	420	0	4	0	7.8	0.7
AVN	134	0	49	1.9	-0.1	132	0	47	0	5.1	0.4
AXF	28	0	32	1.1	0.1	28	0	32	0	6.3	0.0
AZA	781	1	3	1.4	0.0	656	0	4	0	8.0	0.6
BAL	426	1	6	1.1	0.1	401	0	8	0	7.6	-0.4
BAW	763	0	9	1.6	-0.3	585	0	9	0	6.0	0.4
BBR	327	2	4	1.7	0.6	326	0	10	0	11.1	2.9
BMA	429	0	3	1.3	0.1	364	0	3	0	4.3	0.7
BPA	758	1	8	1.3	0.3	757	0	8	0	6.9	0.2
BSK	34	3	3	1.4	-0.4	21	0	5	0	7.7	1.7
BWA	403	0	2	1.2	0.0	350	0	2	0	5.5	0.7
CAL	24	4	13	1.3	0.0	25	0	8	0	8.6	0.7
CCA	387	1	14	2.0	-0.2	375	0	100	0	9.5	-0.4
CES	563	2	8	1.7	-0.2	546	0	9	0	9.1	0.2
CFC	48	0	6	1.9	0.3	48	0	15	0	11.7	3.3
CFG	1032	0	2	1.3	0.1	796	0	3	0	6.8	0.3
CKK	126	4	7	1.4	0.4	129	0	6	0	9.5	0.6
CKS	337	0	32	1.4	0.2	309	0	36	0	7.6	0.3
CLX	329	1	4	1.8	-0.4	223	1	8	0	7.6	0.1
CNJ	43946	0	72	1.0	0.5	43946	0	72	0	4.4	0.3
COA	5866	0	6	1.3	0.1	5665	0	6	0	5.1	0.7
CRL	547	0	2	1.4	0.1	522	0	2	0	5.5	0.5
CSD	55	0	0	1.7	1.1	43	0	0	0	5.4	0.1
CSN	116	2	14	1.5	0.2	119	1	13	0	7.8	0.4
CUB	253	1	3	1.6	-0.9	224	0	3	0	6.8	0.5
DAL	4088	0	30	1.4	0.4	3994	0	30	0	4.4	0.2
DLH	6740	0	5	1.4	0.1	6505	0	5	0	5.0	0.4
DRD	654	1	3	1.3	-0.2	648	0	4	0	7.5	1.0
EDW	106	1	4	1.4	-0.2	93	0	3	0	6.6	0.4
EEZ	318	2	9	1.7	0.2	296	1	7	0	6.4	0.8
EIA	315	1	19	1.6	0.2	305	0	100	0	16.2	2.8
ELJ	31	0	45	1.7	0.9	31	0	45	0	6.2	1.9
ELY	541	0	0	1.2	0.3	515	0	0	0	4.9	0.6
ETH	28	0	0	0.9	-0.4	27	0	0	0	2.8	0.7
EUK	41	0	2	2.1	1.2	22	0	9	0	12.0	2.1
EVA	169	1	4	1.3	0.1	179	1	6	0	7.9	-0.7
FCA	285	0	11	3.0	1.9	257	0	3	0	6.8	0.8
FDX	2020	1	49	1.3	0.3	1759	0	50	0	7.1	0.2
FIN	540	0	4	1.7	0.2	453	0	3	0	6.2	0.3
FJI	925	1	31	1.6	0.7	913	0	31	0	6.7	0.5

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
FOM	850	1	25	1.6	0.2	853	0	25	0	6.0	0.3
FWI	726	0	3	1.3	-0.3	723	0	3	0	6.4	1.1
GAF	37	0	3	1.3	-0.4	26	0	0	0	4.5	0.6
GCO	147	0	14	1.4	0.1	147	0	100	0	12.3	0.9
GRL	107	1	1	1.7	0.4	100	0	0	0	3.9	0.3
GTI	220	2	100	3.0	1.5	205	0	15	0	6.7	0.1
HAL	4895	3	48	2.8	1.2	4825	0	40	0	5.8	-0.3
HMY	26	0	35	1.4	0.3	26	0	35	0	6.2	0.0
IBE	4190	0	5	1.5	0.3	4148	0	5	0	6.3	0.5
ICE	1155	0	2	1.6	-0.2	664	0	2	0	6.2	0.5
ISR	90	2	6	1.3	-0.1	59	0	7	0	7.7	0.0
IWD	985	0	1	1.1	-0.1	980	0	2	0	6.0	1.2
JAL	2141	0	5	1.5	0.4	2109	0	5	0	7.2	0.6
JAZ	804	0	3	1.7	1.2	784	0	3	0	6.5	0.7
JBU	62	15	15	0.6	0.3	63	0	2	0	5.5	1.7
KAC	174	0	5	1.3	0.6	173	0	5	0	4.9	1.2
KAI	38	0	42	2.4	2.2	35	0	43	0	4.6	1.1
KAL	1790	0	4	1.6	0.0	1763	0	5	0	6.9	0.1
KFS	46	15	76	5.6	5.5	38	0	34	0	13.6	7.2
KLM	1951	0	7	1.4	0.0	1627	0	8	0	5.8	0.3
LAN	671	0	3	1.5	-0.4	664	0	3	0	4.8	0.5
LAP	53	4	49	2.3	0.9	52	0	46	0	14.6	2.4
LDI	468	0	4	1.2	0.2	414	0	4	0	6.4	0.7
LNE	141	3	9	2.2	-0.2	140	0	4	0	6.8	0.3
LOT	436	0	2	1.8	-0.8	312	0	2	0	6.2	-0.1
LTE	20	5	5	1.1	0.3	20	0	5	0	8.5	-1.2
LTU	1083	1	7	1.6	0.2	914	0	5	0	7.4	0.9
LXR	130	2	3	1.5	0.1	120	0	3	0	6.4	1.1
MAS	262	0	9	1.6	0.3	246	0	10	0	5.4	0.0
MON	65	0	2	1.7	0.1	51	0	0	0	5.9	0.1
MPD	763	1	2	1.4	0.2	704	0	4	0	7.5	1.1
MPH	678	1	3	1.6	-0.6	526	0	2	0	6.8	0.2
MSR	152	0	2	1.3	0.6	149	0	2	0	4.2	0.8
MXA	39	3	5	2.3	-0.1	37	0	100	0	10.3	1.5
MYT	476	1	3	1.3	-0.1	373	0	3	0	7.2	0.9
NAO	532	0	36	1.4	-0.1	513	0	36	0	5.3	0.0
NCA	888	1	4	1.5	0.1	667	0	6	0	7.0	0.2
NOS	75	0	4	0.9	-0.2	64	0	3	0	5.4	-0.1
NWA	9803	0	14	1.6	0.1	9577	0	14	0	7.4	0.4
NZL	6796	0	9	1.3	-0.1	6797	0	9	0	4.7	0.2
OAE	532	0	21	1.2	-0.4	431	0	29	0	8.2	0.8
OOM	186	1	6	2.1	-1.1	131	0	8	0	8.2	0.6
PAC	389	0	7	1.7	-0.1	359	0	7	0	7.6	-0.5
PAL	1453	0	5	1.5	0.1	1403	0	6	0	7.8	0.5
PAO	331	1	56	1.5	0.3	331	1	56	0	10.7	-0.2
PBI	807	0	39	1.4	0.2	797	0	39	0	7.8	0.0
PLM	521	0	2	1.6	1.0	446	0	4	0	7.7	0.7
QFA	4104	0	41	1.4	0.3	4079	0	42	0	5.9	0.0
RAM	463	0	5	1.7	0.5	376	0	7	0	9.0	0.7
RCH	276	3	100	4.0	-0.1	216	0	100	0	10.5	0.9
RJA	30	0	0	1.0	-0.4	22	0	0	0	4.8	1.2
RRR	28	4	4	1.8	0.3	28	0	0	0	5.3	0.9
RYN	356	0	40	1.4	0.0	341	0	41	0	5.4	-0.2
RZO	1360	1	9	2.5	0.5	1294	0	5	0	7.2	0.4
SAA	38	0	18	1.5	0.0	38	0	18	0	6.3	0.0
SAS	1130	0	46	1.4	0.1	1048	0	46	0	4.4	0.6
SCY	55	0	7	1.2	0.3	51	0	10	0	6.3	-1.0
SEU	187	0	2	1.5	0.2	156	0	1	0	5.5	0.8
SIA	799	0	4	1.4	0.3	793	0	4	0	4.5	0.3

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
SLM	169	0	0	1.0	0.2	169	0	0	0	5.0	0.4
SOO	29	3	3	1.6	1.1	42	0	0	0	6.0	1.0
SQC	360	0	0	1.4	0.3	357	0	1	0	5.0	-0.2
SSV	129	0	5	1.4	0.2	90	0	2	0	7.0	1.2
SVA	44	2	7	1.3	0.5	34	0	15	0	11.0	-1.2
SWR	1583	0	4	1.4	-0.2	1556	0	4	0	4.7	0.8
TAG	34	0	32	1.8	0.4	30	0	33	0	8.7	-0.4
TAM	22	9	45	2.5	-0.5	23	0	48	0	16.2	7.7
TAP	1105	1	2	1.4	-0.2	1043	0	4	0	7.2	0.7
TCV	54	0	6	2.8	2.2	50	0	4	0	8.2	1.3
TCX	351	0	5	1.2	0.1	303	0	5	0	5.5	0.9
TFL	191	1	2	0.9	0.0	169	0	2	0	5.3	0.0
THA	154	0	6	1.7	0.6	153	0	4	0	5.7	0.5
THT	1477	0	18	1.1	0.4	1465	0	18	0	5.3	0.8
TPA	30	0	0	0.9	0.5	30	0	0	0	4.8	0.1
TSC	540	1	3	1.6	-0.4	378	0	4	0	6.1	0.2
TUB	71	0	27	3.6	2.1	38	0	0	0	7.0	0.0
UAE	925	0	5	1.4	0.4	912	0	5	0	4.7	0.5
UAL	13670	0	36	1.2	0.0	13605	0	36	0	5.0	0.4
UPS	2074	0	55	1.5	0.1	2033	0	56	0	6.7	0.1
USA	1951	0	2	1.1	0.1	1905	0	2	0	4.9	0.7
VHF	22	0	0	1.3	0.5	22	0	0	0	5.7	-0.8
VIR	2623	0	3	1.3	0.0	2553	0	3	0	4.8	0.3
VLE	46	0	2	0.8	-0.3	41	0	7	0	8.9	-1.2
VVJ	48	2	17	0.8	-0.4	49	0	20	0	10.0	0.3
VVR	84	0	40	2.0	1.0	85	0	40	0	5.8	1.5
WOA	432	1	10	1.5	0.4	360	0	14	0	9.3	0.2
XLA	264	1	3	0.9	0.0	236	0	3	0	6.2	0.3
YSS	297	1	5	1.5	0.7	284	0	5	0	8.0	1.4

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	43727	0	16	1.3	0.6	43809	0	16	0	5.1	0.5
B-	10739	0	63	1.6	0.8	10739	0	63	0	5.0	0.3
EU	237210	0	27	1.2	0.3	237208	0	26	0	4.6	0.3
HK	3749	0	21	1.1	0.6	3749	0	22	0	5.1	0.2
JP	64428	0	65	1.3	0.8	64428	0	64	0	4.8	0.6
MK	2790	0	100	1.8	1.6	2788	0	5	0	7.2	1.7
SA	5849	0	6	1.3	0.5	5849	0	6	0	6.2	0.6
TN	67	3	36	1.5	0.7	67	0	34	0	5.4	1.1
UA	318501	0	97	0.9	-0.1	318217	0	97	0	4.3	0.5
N	984	1	23	2.0	0.5	803	0	28	0	7.5	0.7
US ACARS	1031928	0	66	1.1	0.4	1031917	0	66	0	4.8	0.6

TABLE 4B

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :1000.0 – 300.1 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP ≥ 20

NB : All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS".

		TEMPERATURE					WIND				
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	143	3	36	1.3	-0.2	129	0	36	0	8.2	1.8
ACA	59	3	24	1.0	-0.1	47	0	30	0	13.2	3.5
AFR	83	2	7	1.2	-0.1	80	0	4	0	5.7	1.0
AFZ	1146	0	29	1.4	-0.1	1146	0	29	0	4.5	0.3
AMT	95	0	28	1.0	0.0	91	0	30	0	5.3	0.1
ANZ	299	1	29	1.4	-0.1	302	0	29	0	7.4	1.1
AXF	29	0	59	1.1	0.5	29	0	59	0	6.9	0.7
BAL	61	0	5	1.4	-0.8	61	0	5	0	6.0	1.1
CFC	48	2	8	1.3	0.5	37	0	11	0	8.9	1.1
CFG	32	9	9	1.3	0.5	29	0	0	0	5.7	2.2
CKS	60	3	30	1.3	-0.2	51	0	25	0	7.2	1.5
CNJ	681158	0	85	1.8	0.6	681158	0	88	0	4.8	0.2
COA	51	0	8	1.1	-0.3	48	0	6	0	4.4	0.7
CWC	66	0	6	1.9	0.0	31	0	45	0	18.0	7.0
DAL	98	0	35	1.5	0.4	92	0	36	0	4.4	1.1
DLH	165	0	10	1.3	0.0	167	0	13	0	7.6	-0.3
EIA	70	1	20	1.6	0.2	69	0	100	0	24.5	7.0
FDX	417	0	36	1.4	0.4	316	0	36	0	7.0	0.0
FOM	28	0	39	2.6	0.1	28	0	32	0	5.3	0.1
FXI	47	0	13	2.9	1.1	46	0	2	0	5.6	0.9
GAF	47	2	6	2.1	0.1	23	0	0	0	5.0	1.3
GCO	107	0	6	1.0	0.2	107	0	100	0	13.0	3.1
HAL	348	2	51	3.1	1.6	333	0	43	0	7.2	2.1
IBE	23	0	9	2.3	1.0	22	0	5	0	4.3	2.0
ICE	94	1	21	1.6	-0.4	52	2	12	0	6.3	-0.9
JAL	28	0	0	1.1	-0.1	26	0	0	0	7.8	0.8
KAL	56	2	7	0.9	0.2	56	0	7	0	5.3	0.9
KIW	73	1	41	2.9	1.9	73	0	38	0	9.1	-0.9
LAN	90	2	28	1.5	0.1	64	0	27	0	6.5	1.2
MAS	26	0	15	0.9	-0.1	26	0	15	0	3.9	0.3
MPH	40	0	3	2.0	-0.2	29	0	0	0	4.3	0.4
NCA	92	0	0	1.1	0.4	85	0	1	0	7.8	1.0
NWA	247	1	7	1.8	0.2	242	0	7	0	8.4	0.5
NZL	26048	0	54	1.1	0.3	26048	0	54	0	4.2	0.2
OAE	123	0	7	1.8	-0.7	79	0	19	0	10.6	1.2
OCE	47	0	4	2.3	1.8	40	0	3	0	5.5	1.3
PAC	52	0	13	2.5	0.8	46	0	11	0	6.8	0.4
QFA	149	0	49	1.4	0.1	152	0	48	0	5.3	-0.4
RCH	50	2	100	3.1	0.0	37	0	100	0	9.8	2.9
RRR	144	10	25	3.4	1.9	145	0	10	0	8.0	0.3
RYN	20	0	45	0.7	0.5	20	0	45	0	3.0	0.9
RZO	34	6	12	2.6	-0.1	31	0	0	0	7.0	0.1
SIA	93	0	5	1.1	0.4	93	0	5	0	4.4	0.3
THT	112	0	58	1.0	0.0	111	0	59	0	5.7	0.5
UAE	85	0	5	1.2	0.6	86	0	5	0	4.5	0.8
UAL	114	9	34	1.0	0.0	115	0	30	0	8.1	0.1
UPS	164	2	40	1.5	-0.2	158	1	37	0	5.5	0.6
VVR	23	0	43	1.5	1.1	23	0	48	0	9.8	3.7
WOA	173	0	7	1.4	0.6	131	0	18	0	12.7	3.2

		TEMPERATURE					WIND				
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	56328	0	61	1.3	0.6	56540	0	61	0	4.3	0.3
B-	71050	0	74	1.2	0.0	71049	0	74	0	4.0	0.6
EU	662304	0	67	1.0	0.2	657539	0	66	0	3.6	0.1
HK	4311	0	74	1.1	0.0	4311	0	74	0	3.8	0.4
JP	296520	0	82	1.2	0.2	296520	0	81	0	3.7	0.6
MK	3206	0	100	1.2	0.5	3201	0	49	0	4.3	0.7
SA	4652	0	58	1.5	0.0	4652	0	57	0	4.6	0.0
UA	263274	0	98	1.0	-0.2	262920	0	98	0	3.4	0.5
US ACARS	1820596	0	81	1.1	0.1	1815160	0	81	0	3.6	0.5

Figure 3a. AIRCRAFT 300 - 150 hPa mean daily count. AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 61811

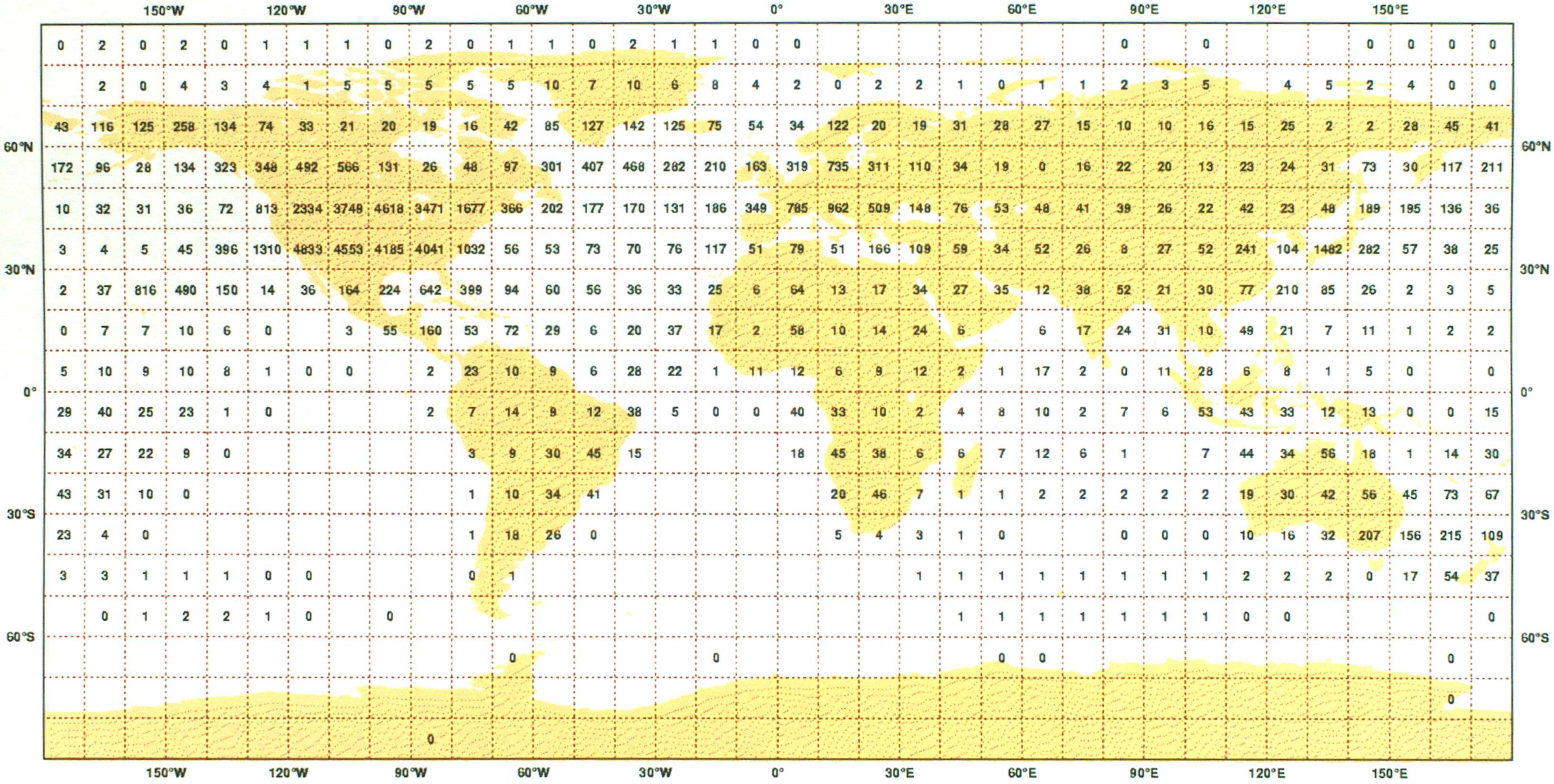

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N 30°N 0° 30°S 60°S
0 2 0 2 0 1 1 1 0 2 0 1 1 0 2 1 1 0 0 0 0 0 0 0 0
2 0 4 3 4 1 5 5 5 5 5 10 7 10 6 8 4 2 0 2 2 1 0 1 1 2 3 5 4 5 2 4 0 0
43 116 125 258 134 74 33 21 20 19 16 42 85 127 142 125 75 54 34 122 20 19 31 28 27 15 10 10 16 15 25 2 2 28 45 41
172 96 28 134 323 348 492 566 131 26 48 97 301 407 468 282 210 163 319 735 311 110 34 19 0 16 22 20 13 23 24 31 73 30 117 211
10 32 31 36 72 813 2334 3748 4618 3471 1677 366 202 177 170 131 186 349 785 962 509 148 76 53 48 41 39 26 22 42 23 48 189 195 136 36
3 4 5 45 396 1310 4833 4553 4185 4041 1032 56 53 73 70 76 117 51 79 51 166 109 59 34 52 26 8 27 52 241 104 1482 282 57 38 25
2 37 816 490 150 14 36 164 224 642 399 94 60 56 36 33 25 6 64 13 17 34 27 35 12 38 52 21 30 77 210 85 26 2 3 5
0 7 7 10 6 0 3 55 160 53 72 29 6 20 37 17 2 58 10 14 24 6 6 17 24 31 10 49 21 7 11 1 2 2
5 10 9 10 8 1 0 0 2 23 10 9 6 28 22 1 11 12 6 9 12 2 1 17 2 0 11 28 6 8 1 5 0 0
29 40 25 23 1 0 2 7 14 8 12 38 5 0 0 40 33 10 2 4 8 10 2 7 6 53 43 33 12 13 0 0 15
34 27 22 9 0 3 9 30 45 15 18 45 38 6 6 7 12 6 1 7 44 34 56 18 1 14 30
43 31 10 0 1 10 34 41 20 46 7 1 1 2 2 2 2 2 19 30 42 56 45 73 67
23 4 0 1 18 26 0 5 4 3 1 0 0 0 0 10 16 32 207 156 215 109
3 3 1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 2 2 2 0 17 54 37
0 1 2 2 1 0 0 1 1 1 1 1 1 1 0 0 0
0 0 0 0 0
0
0

Figure 3b. AIRCRAFT 1000 - 301 hPa mean daily count. AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 125304

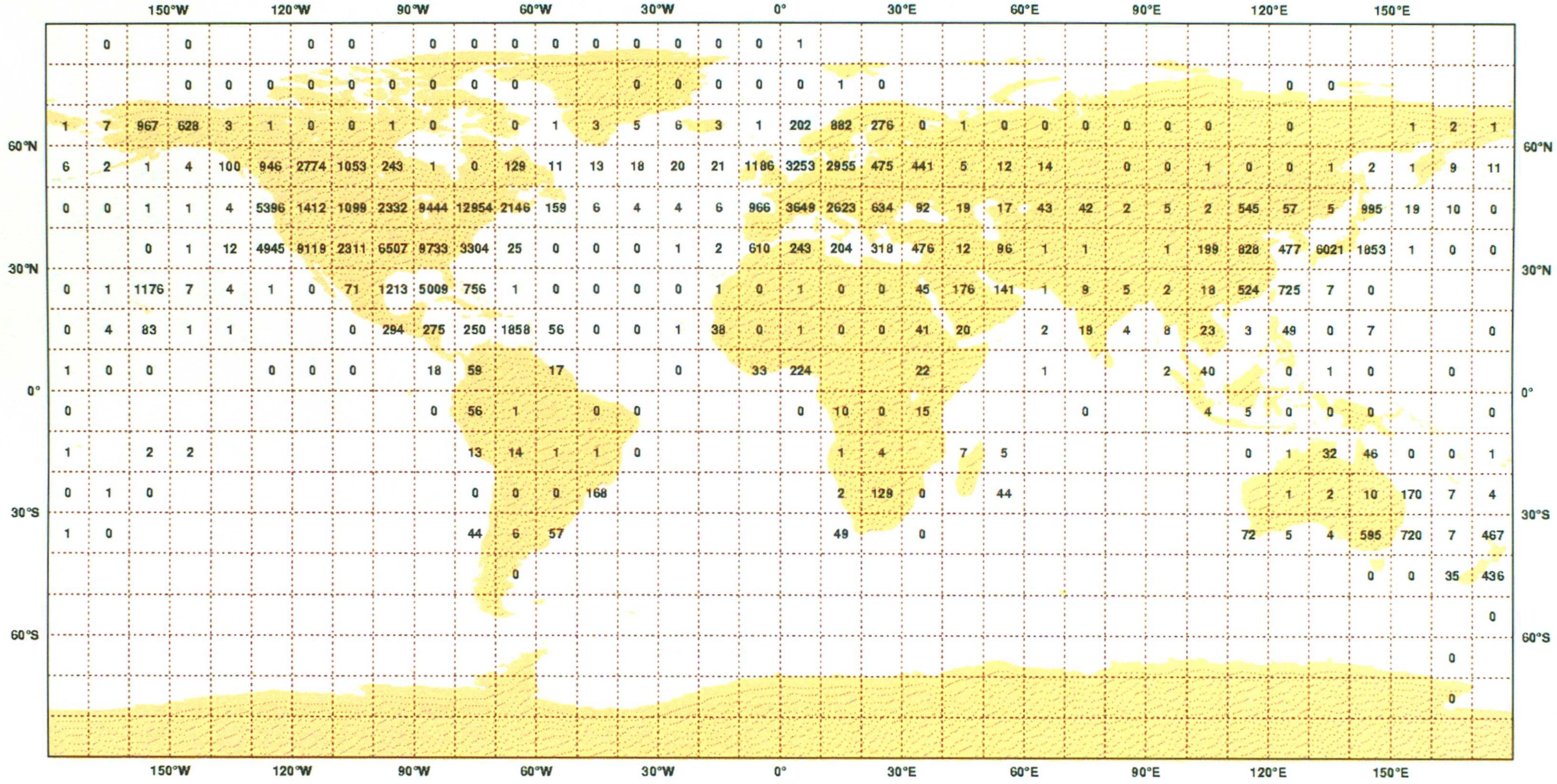

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
0 0 0 0 0 0 0 0 0 0 0 0 0 1
0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
1 7 967 628 3 1 0 0 1 0 0 1 3 5 6 3 1 202 882 276 0 1 0 0 0 0 0 0 0 1 2 1
6 2 1 4 100 946 2774 1053 243 1 0 129 11 13 18 20 21 1186 3253 2955 475 441 5 12 14 0 0 1 0 0 1 2 1 9 11
0 0 1 1 4 5396 1412 1099 2332 9444 12954 2146 159 6 4 4 6 966 3649 2623 634 92 19 17 43 42 2 5 2 545 57 5 995 19 10 0
0 1 12 4945 9119 2311 6507 9733 3304 25 0 0 0 1 2 610 243 204 318 476 12 96 1 1 1 199 828 477 6021 1853 1 0 0
0 1 1176 7 4 1 0 71 1213 5009 756 1 0 0 0 0 1 0 1 0 0 45 176 141 1 9 5 2 18 524 725 7 0
0 4 83 1 1 0 294 275 250 1858 56 0 0 1 38 0 1 0 0 41 20 2 19 4 8 23 3 49 0 7 0
1 0 0 0 0 0 18 59 17 0 33 224 22 1 2 40 0 1 0 0
0 0 56 1 0 0 0 10 0 15 0 4 5 0 0 0 0
1 2 2 13 14 1 1 0 1 4 7 5 0 1 32 46 0 0 1
0 1 0 0 0 0 168 2 129 0 44 1 2 10 170 7 4
1 0 44 6 57 49 0 72 5 4 595 720 7 467
0 0 0 35 436
0
0
0

Figure 4a. AIRCRAFT 300 - 150 hPa mean winds. AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

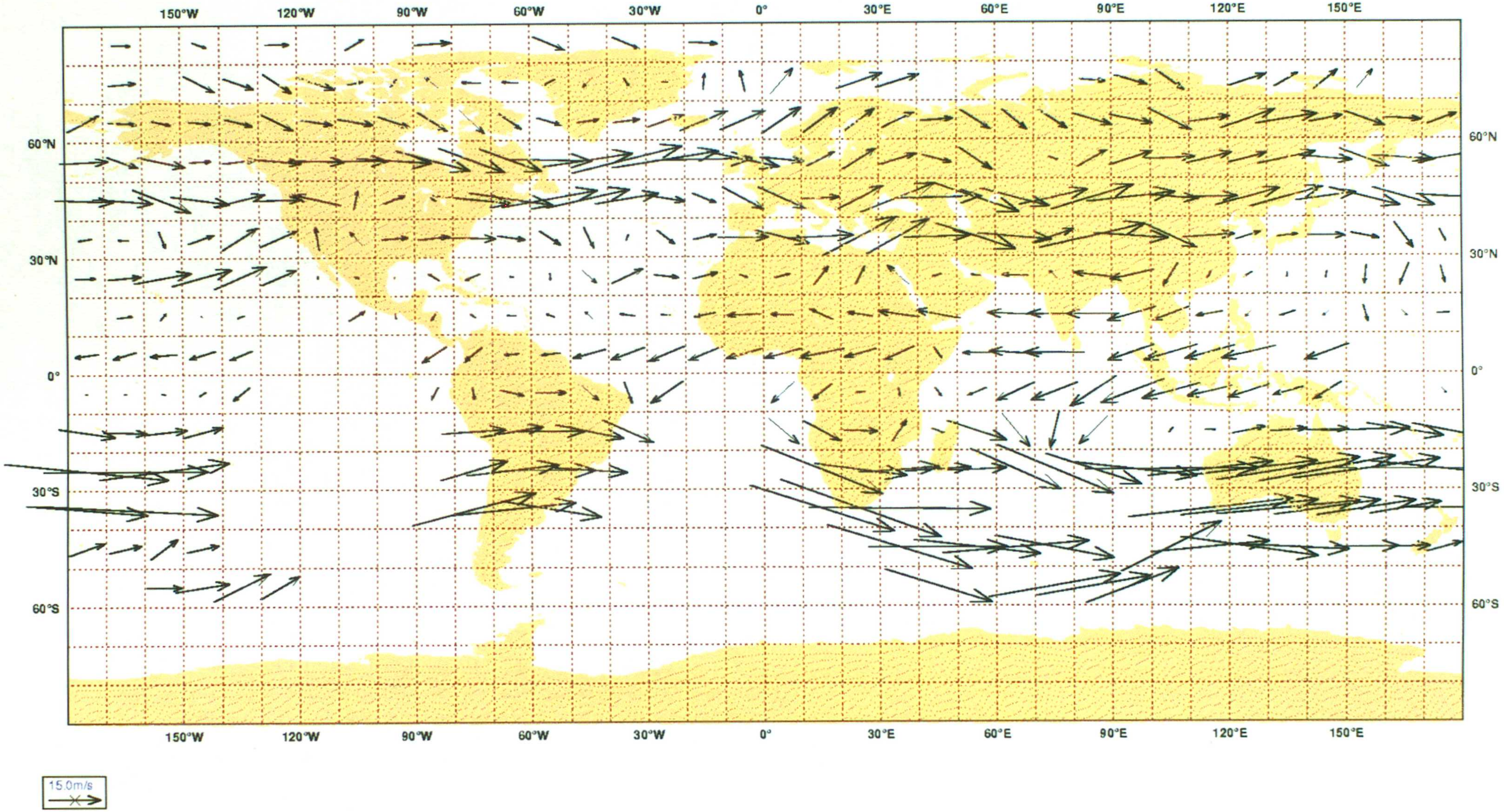

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 4b. AIRCRAFT 1000 - 301 hPa mean winds. AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

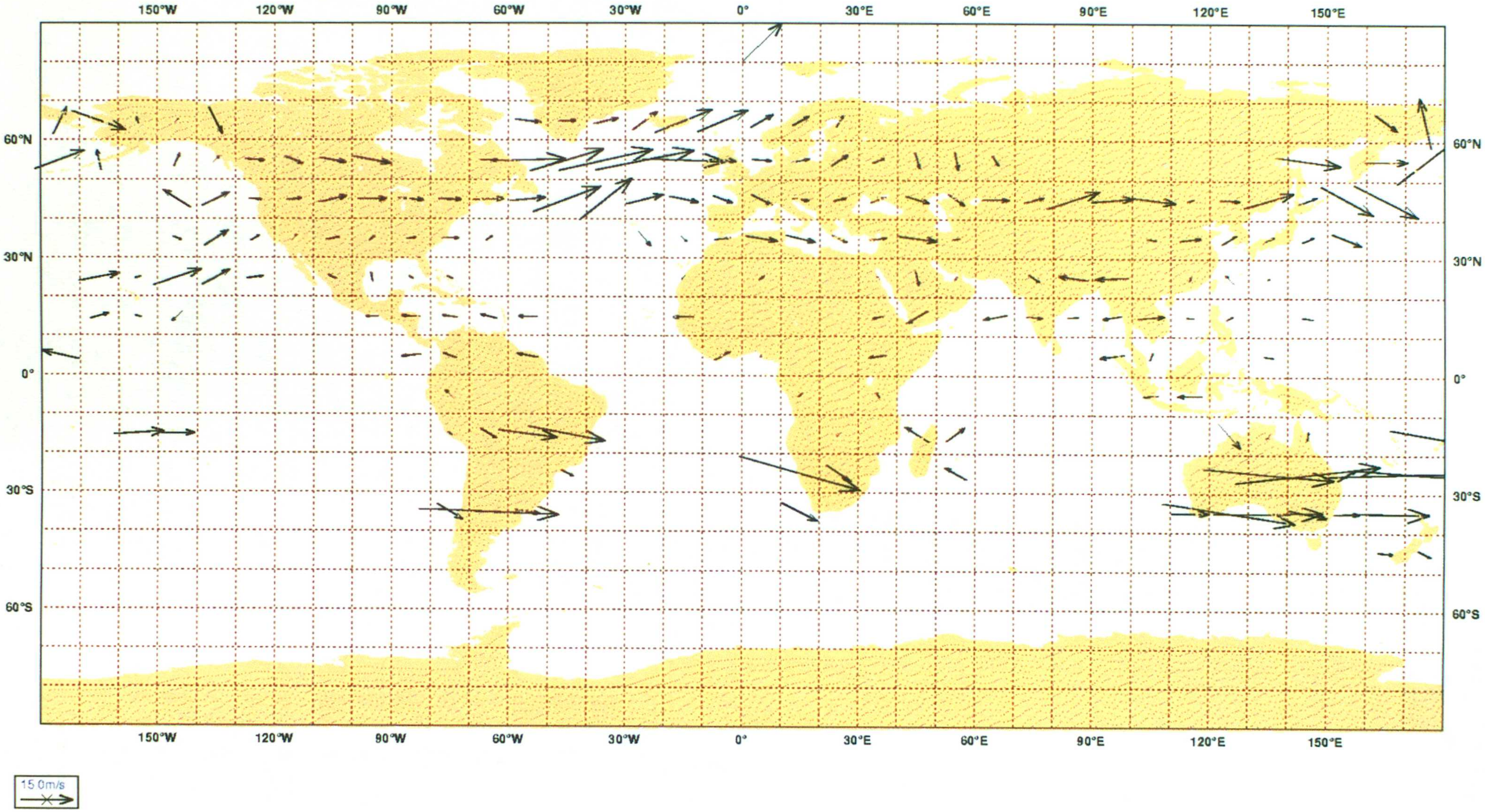

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5a. AIRCRAFT 300 - 150 hPa mean O-B winds. AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

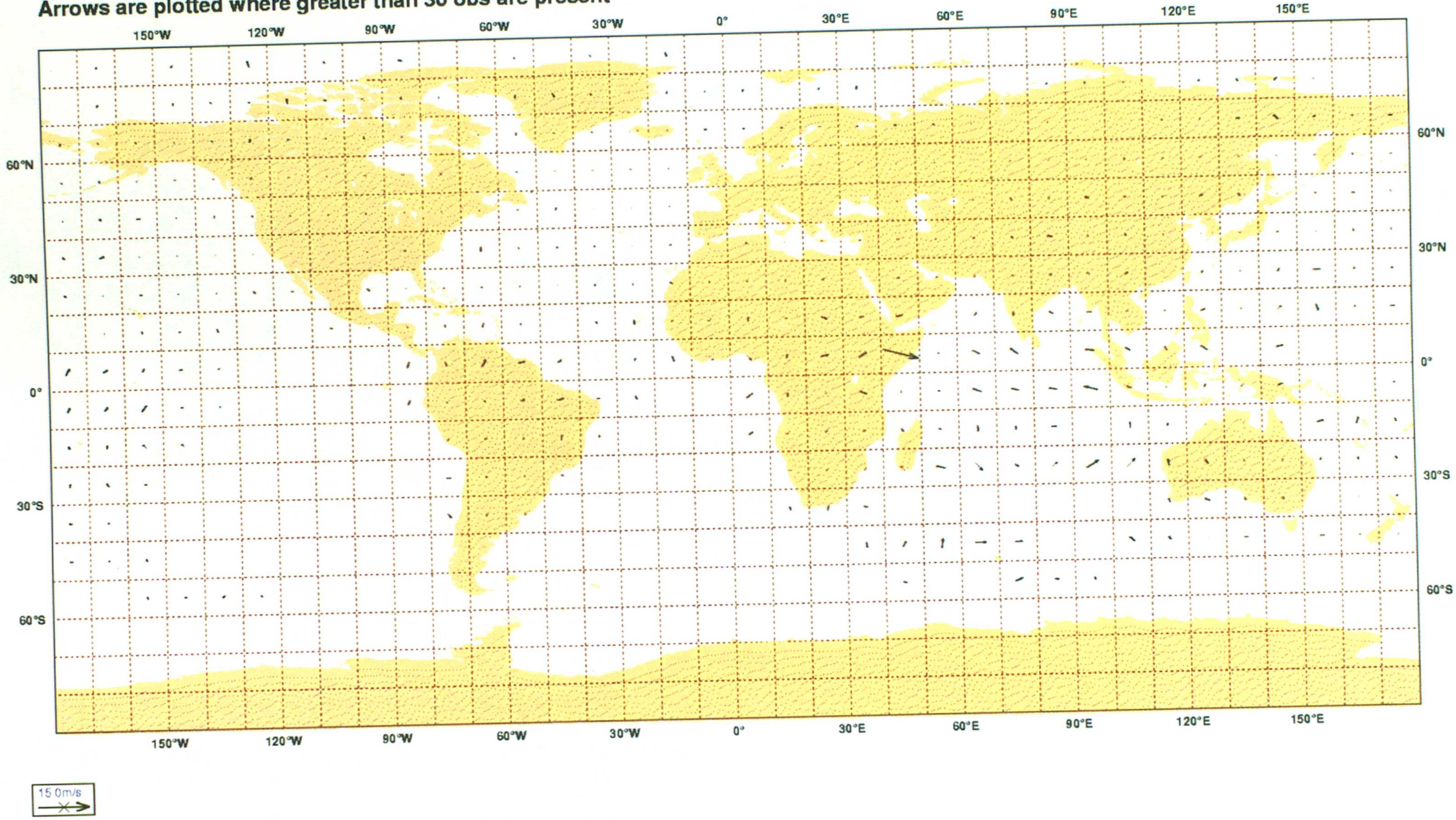

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5b. AIRCRAFT 1000 - 301 hPa mean O-B winds. AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

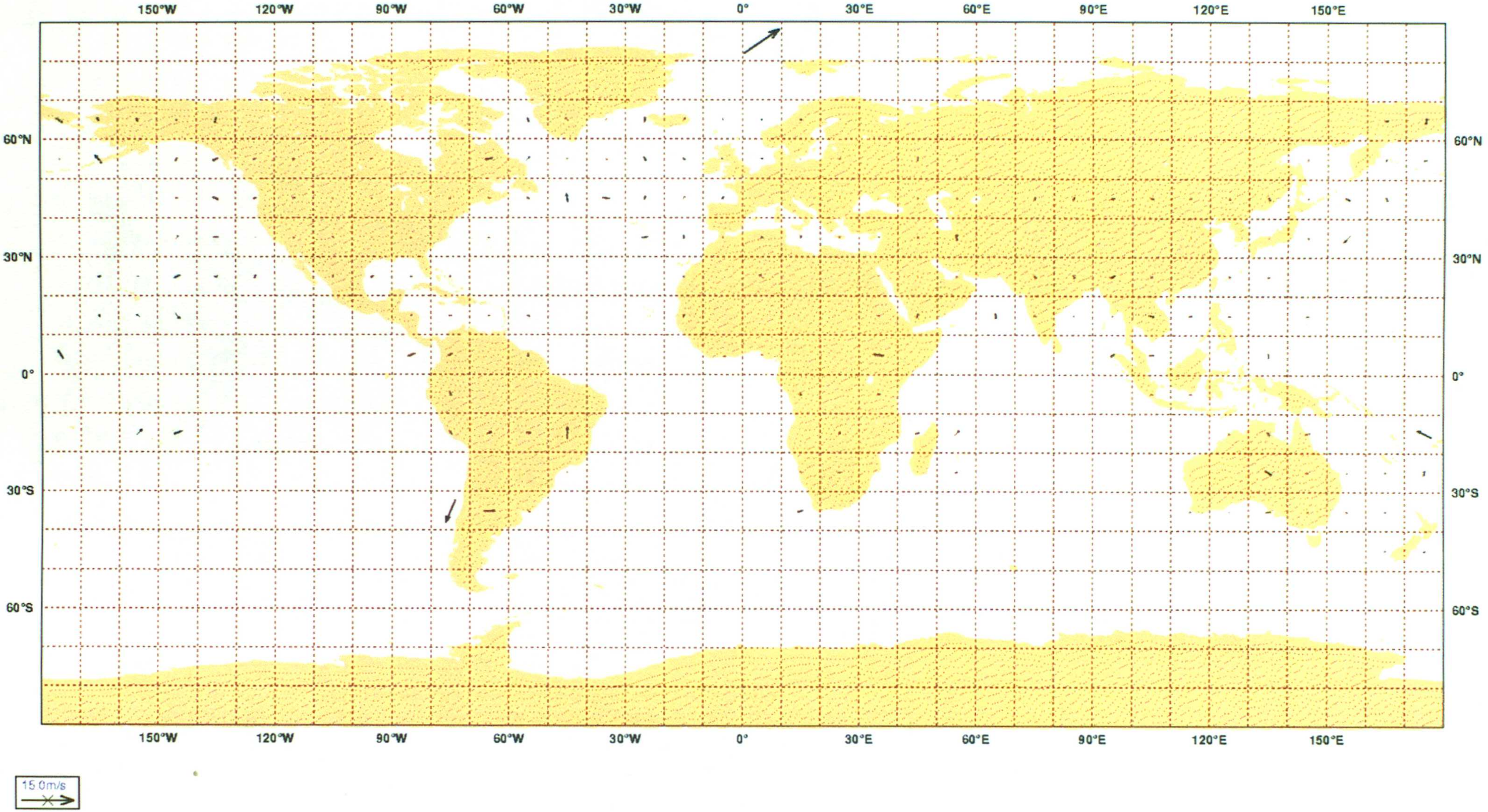

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 6a. AIRCRAFT 300 - 150 hPa mean O-B speeds (ms-1). AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

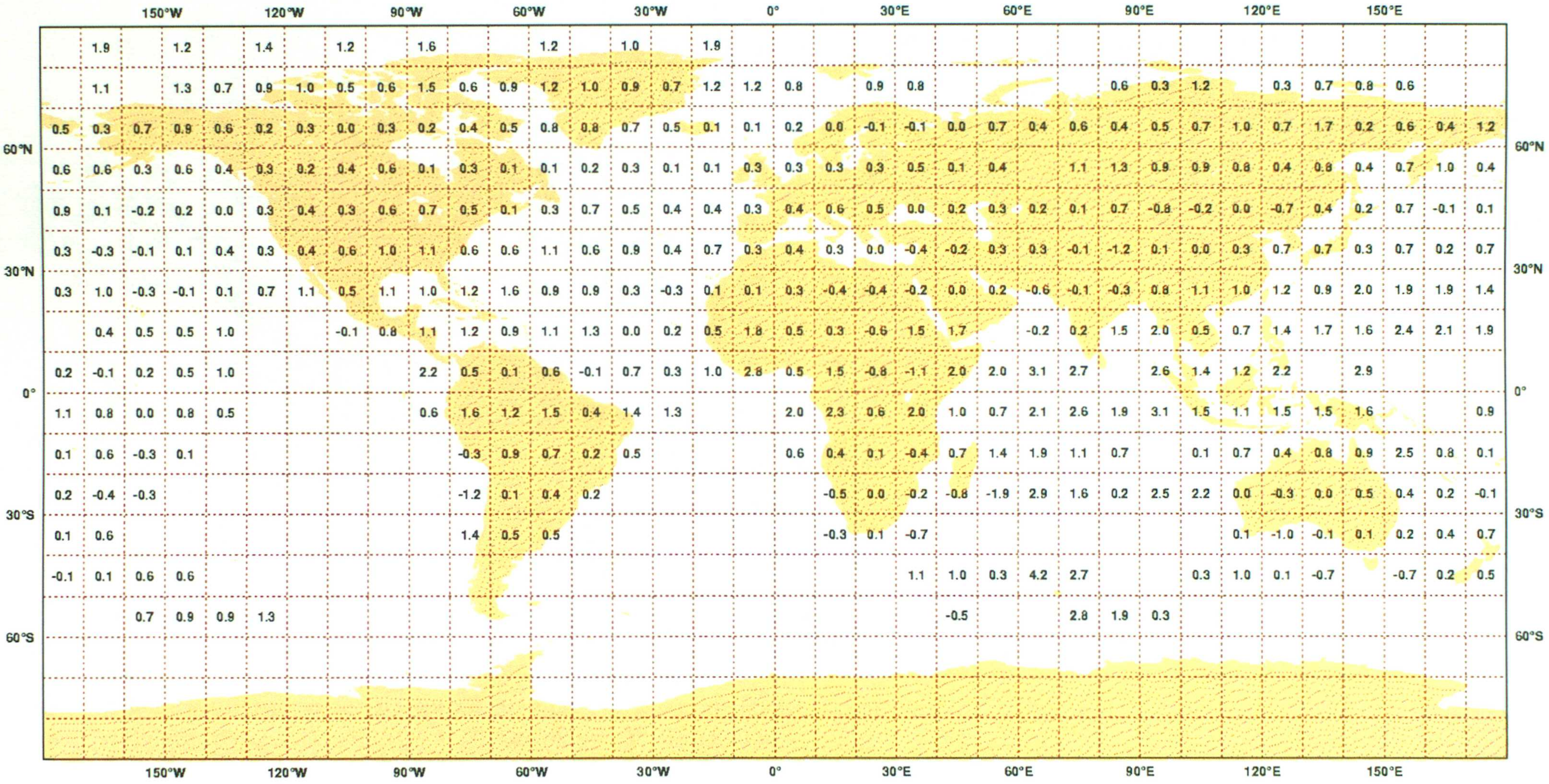

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N
30°N
0°
30°S
60°S
1.9 1.2 1.4 1.2 1.6 1.2 1.0 1.9
1.1 1.3 0.7 0.9 1.0 0.5 0.6 1.5 0.6 0.9 1.2 1.0 0.9 0.7 1.2 1.2 0.8 0.9 0.8 0.6 0.3 1.2 0.3 0.7 0.8 0.6
0.5 0.3 0.7 0.9 0.6 0.2 0.3 0.0 0.3 0.2 0.4 0.5 0.8 0.8 0.7 0.5 0.1 0.1 0.2 0.0 -0.1 -0.1 0.0 0.7 0.4 0.6 0.4 0.5 0.7 1.0 0.7 1.7 0.2 0.6 0.4 1.2
0.6 0.6 0.3 0.6 0.4 0.3 0.2 0.4 0.6 0.1 0.3 0.1 0.1 0.2 0.3 0.1 0.1 0.3 0.3 0.3 0.3 0.5 0.1 0.4 1.1 1.3 0.9 0.9 0.8 0.4 0.8 0.4 0.7 1.0 0.4
0.9 0.1 -0.2 0.2 0.0 0.3 0.4 0.3 0.6 0.7 0.5 0.1 0.3 0.7 0.5 0.4 0.4 0.3 0.4 0.6 0.5 0.0 0.2 0.3 0.2 0.1 0.7 -0.8 -0.2 0.0 -0.7 0.4 0.2 0.7 -0.1 0.1
0.3 -0.3 -0.1 0.1 0.4 0.3 0.4 0.6 1.0 1.1 0.6 0.6 1.1 0.6 0.9 0.4 0.7 0.3 0.4 0.3 0.0 -0.4 -0.2 0.3 0.3 -0.1 -1.2 0.1 0.0 0.3 0.7 0.7 0.3 0.7 0.2 0.7
0.3 1.0 -0.3 -0.1 0.1 0.7 1.1 0.5 1.1 1.0 1.2 1.6 0.9 0.9 0.3 -0.3 0.1 0.1 0.3 -0.4 -0.4 -0.2 0.0 0.2 -0.6 -0.1 -0.3 0.8 1.1 1.0 1.2 0.9 2.0 1.9 1.9 1.4
0.4 0.5 0.5 1.0 -0.1 0.8 1.1 1.2 0.9 1.1 1.3 0.0 0.2 0.5 1.8 0.5 0.3 -0.6 1.5 1.7 -0.2 0.2 1.5 2.0 0.5 0.7 1.4 1.7 1.6 2.4 2.1 1.9
0.2 -0.1 0.2 0.5 1.0 2.2 0.5 0.1 0.6 -0.1 0.7 0.3 1.0 2.8 0.5 1.5 -0.8 -1.1 2.0 2.0 3.1 2.7 2.6 1.4 1.2 2.2 2.9
1.1 0.8 0.0 0.8 0.5 0.6 1.6 1.2 1.5 0.4 1.4 1.3 2.0 2.3 0.6 2.0 1.0 0.7 2.1 2.6 1.9 3.1 1.5 1.1 1.5 1.5 1.6 0.9
0.1 0.6 -0.3 0.1 -0.3 0.9 0.7 0.2 0.5 0.6 0.4 0.1 -0.4 0.7 1.4 1.9 1.1 0.7 0.1 0.7 0.4 0.8 0.9 2.5 0.8 0.1
0.2 -0.4 -0.3 -1.2 0.1 0.4 0.2 -0.5 0.0 -0.2 -0.8 -1.9 2.9 1.6 0.2 2.5 2.2 0.0 -0.3 0.0 0.5 0.4 0.2 -0.1
0.1 0.6 1.4 0.5 0.5 -0.3 0.1 -0.7 0.1 -1.0 -0.1 0.1 0.2 0.4 0.7
-0.1 0.1 0.6 0.6 1.1 1.0 0.3 4.2 2.7 0.3 1.0 0.1 -0.7 -0.7 0.2 0.5
0.7 0.9 0.9 1.3 -0.5 2.8 1.9 0.3

Figure 6b. AIRCRAFT 1000 - 301 hPa mean O-B speeds (ms-1). AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

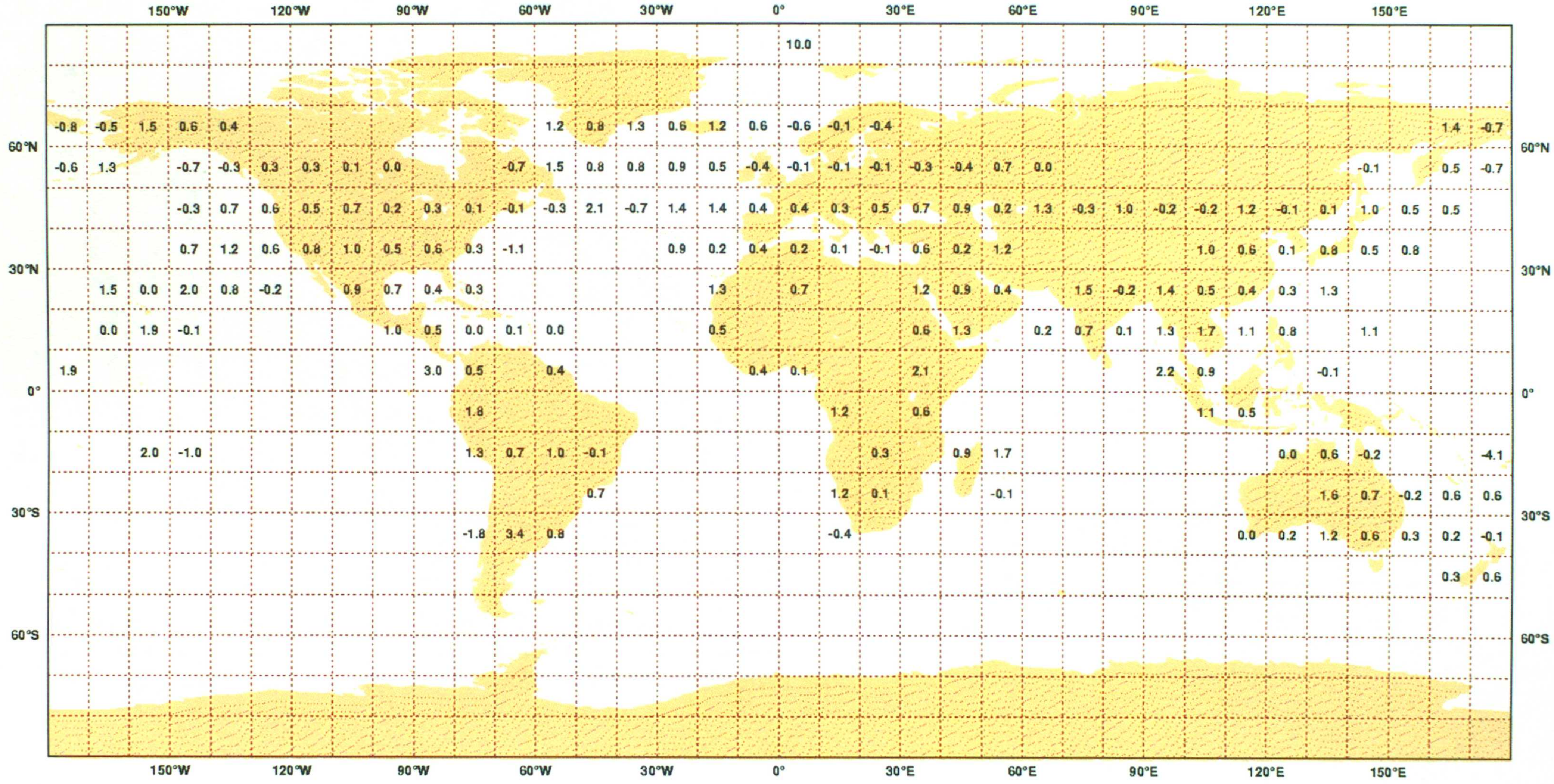
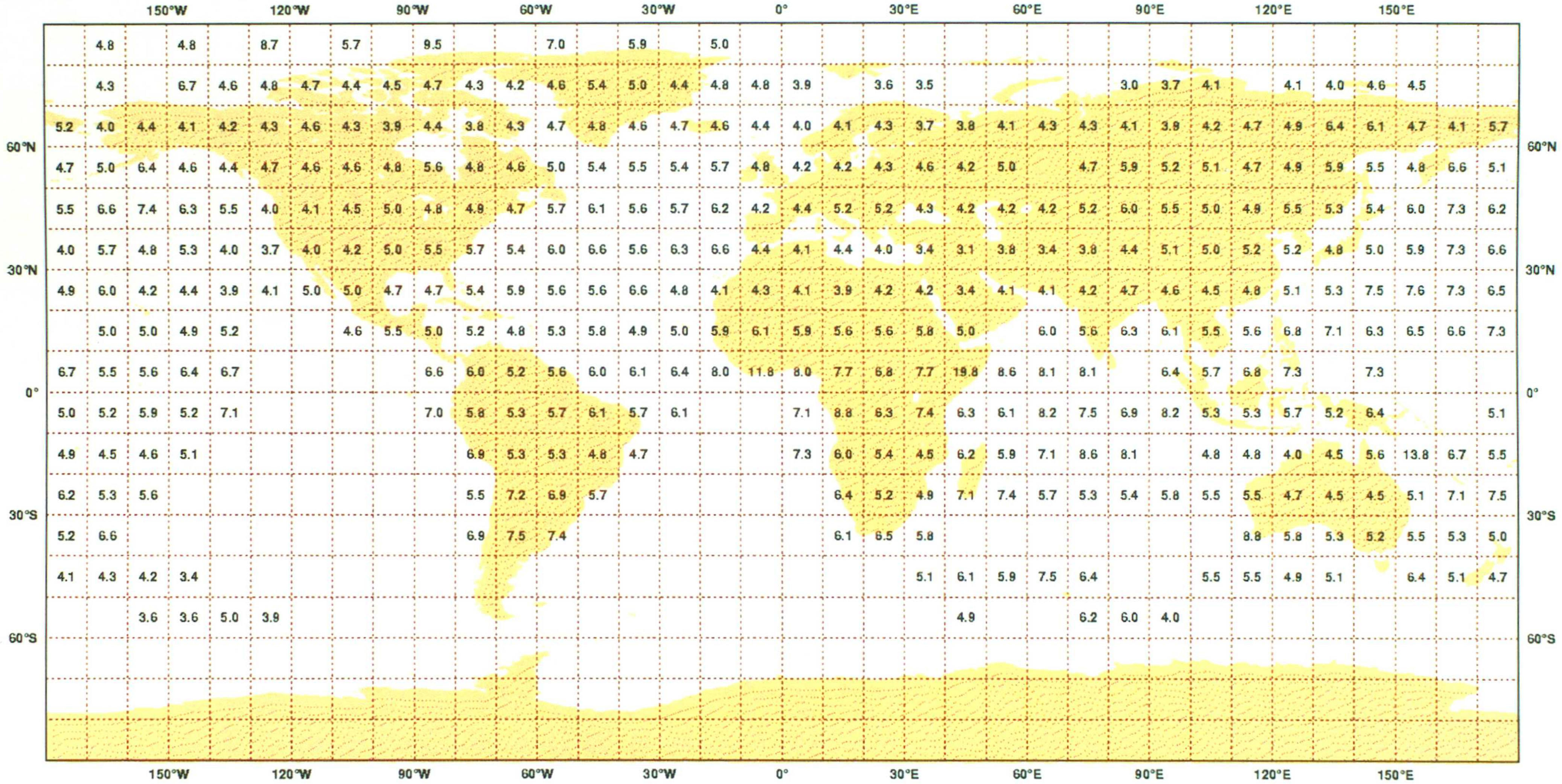
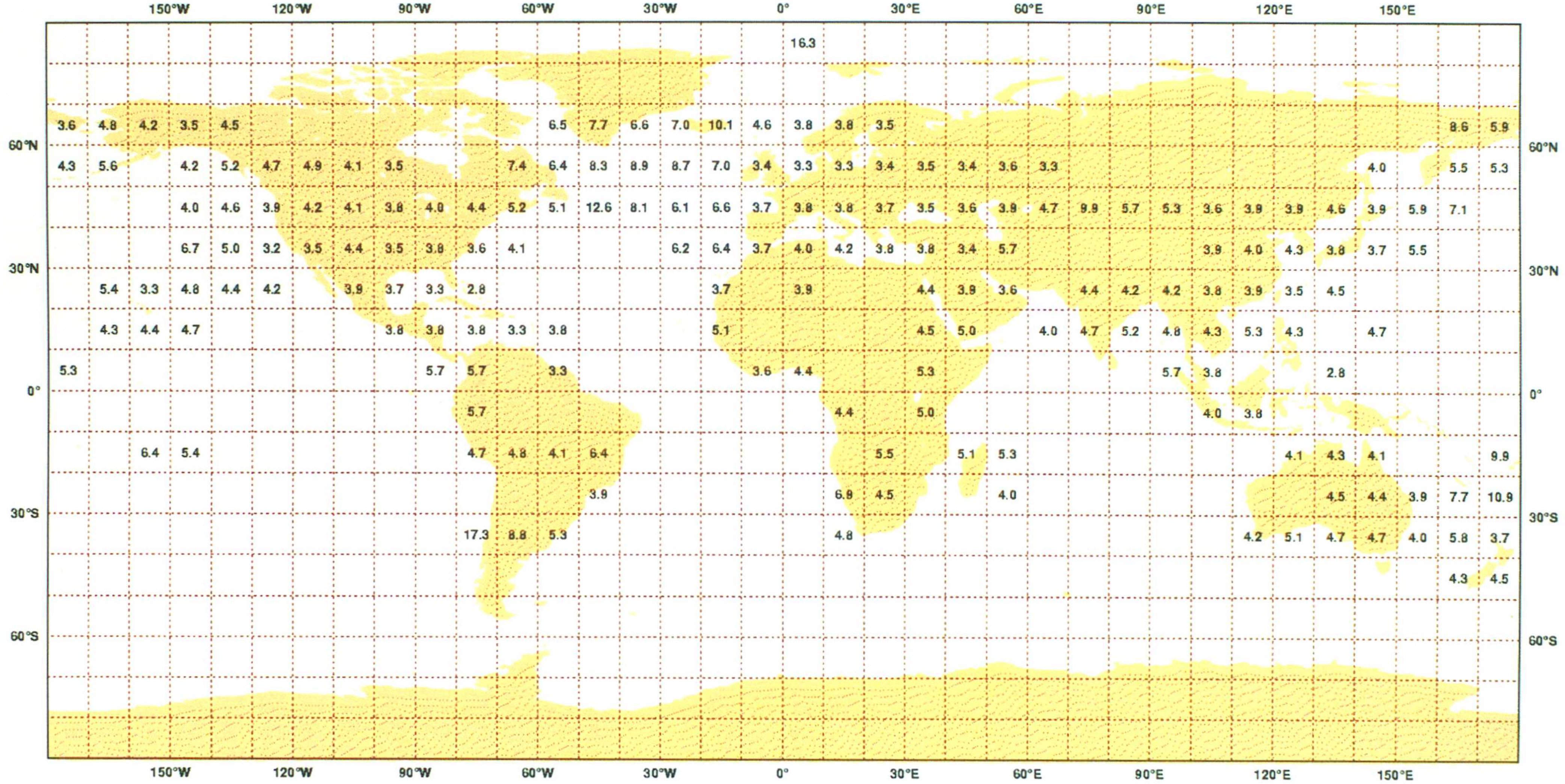

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0
-0.8 -0.5 1.5 0.6 0.4 1.2 0.8 1.3 0.6 1.2 0.6 -0.6 -0.1 -0.4 1.4 -0.7
-0.6 1.3 -0.7 -0.3 0.3 0.3 0.1 0.0 -0.7 1.5 0.8 0.8 0.9 0.5 -0.4 -0.1 -0.1 -0.1 -0.3 -0.4 0.7 0.0 -0.1 0.5 -0.7
-0.3 0.7 0.6 0.5 0.7 0.2 0.3 0.1 -0.1 -0.3 2.1 -0.7 1.4 1.4 0.4 0.4 0.3 0.5 0.7 0.9 0.2 1.3 -0.3 1.0 -0.2 -0.2 1.2 -0.1 0.1 1.0 0.5 0.5
0.7 1.2 0.6 0.8 1.0 0.5 0.6 0.3 -1.1 0.9 0.2 0.4 0.2 0.1 -0.1 0.6 0.2 1.2 1.0 0.6 0.1 0.8 0.5 0.8
1.5 0.0 2.0 0.8 -0.2 0.9 0.7 0.4 0.3 1.3 0.7 1.2 0.9 0.4 1.5 -0.2 1.4 0.5 0.4 0.3 1.3
0.0 1.9 -0.1 1.0 0.5 0.0 0.1 0.0 0.5 0.6 1.3 0.2 0.7 0.1 1.3 1.7 1.1 0.8 1.1
1.9 3.0 0.5 0.4 0.4 0.1 2.1 2.2 0.9 -0.1
1.8 1.2 0.6 1.1 0.5
2.0 -1.0 1.3 0.7 1.0 -0.1 0.3 0.9 1.7 0.0 0.6 -0.2 -4.1
0.7 1.2 0.1 -0.1 1.6 0.7 -0.2 0.6 0.6
-1.8 3.4 0.8 -0.4 0.0 0.2 1.2 0.6 0.3 0.2 -0.1
0.3 0.6

Figure 7a. AIRCRAFT 300 - 150 hPa RMS O-B vector (ms-1). AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present



	4.8		4.8		8.7		5.7		9.5			7.0		5.9		5.0																			
	4.3		6.7	4.6	4.8	4.7	4.4	4.5	4.7	4.3	4.2	4.6	5.4	5.0	4.4	4.8	4.8	3.9		3.6	3.5					3.0	3.7	4.1		4.1	4.0	4.6	4.5		
5.2	4.0	4.4	4.1	4.2	4.3	4.6	4.3	3.9	4.4	3.8	4.3	4.7	4.8	4.6	4.7	4.6	4.4	4.0	4.1	4.3	3.7	3.8	4.1	4.3	4.3	4.1	3.9	4.2	4.7	4.9	6.4	6.1	4.7	4.1	5.7
4.7	5.0	6.4	4.6	4.4	4.7	4.6	4.6	4.8	5.6	4.8	4.6	5.0	5.4	5.5	5.4	5.7	4.8	4.2	4.2	4.3	4.6	4.2	5.0		4.7	5.9	5.2	5.1	4.7	4.9	5.9	5.5	4.8	6.6	5.1
5.5	6.6	7.4	6.3	5.5	4.0	4.1	4.5	5.0	4.8	4.9	4.7	5.7	6.1	5.6	5.7	6.2	4.2	4.4	5.2	5.2	4.3	4.2	4.2	4.2	5.2	6.0	5.5	5.0	4.9	5.5	5.3	5.4	6.0	7.3	6.2
4.0	5.7	4.8	5.3	4.0	3.7	4.0	4.2	5.0	5.5	5.7	5.4	6.0	6.6	5.6	6.3	6.6	4.4	4.1	4.4	4.0	3.4	3.1	3.8	3.4	3.8	4.4	5.1	5.0	5.2	5.2	4.8	5.0	5.9	7.3	6.6
4.9	6.0	4.2	4.4	3.9	4.1	5.0	5.0	4.7	4.7	5.4	5.9	5.6	5.6	6.6	4.8	4.1	4.3	4.1	3.9	4.2	4.2	3.4	4.1	4.1	4.2	4.7	4.6	4.5	4.8	5.1	5.3	7.5	7.6	7.3	6.5
	5.0	5.0	4.9	5.2			4.6	5.5	5.0	5.2	4.8	5.3	5.8	4.9	5.0	5.9	6.1	5.9	5.6	5.6	5.8	5.0		6.0	5.6	6.3	6.1	5.5	5.6	6.8	7.1	6.3	6.5	6.6	7.3
6.7	5.5	5.6	6.4	6.7					6.6	6.0	5.2	5.6	6.0	6.1	6.4	8.0	11.8	8.0	7.7	6.8	7.7	19.8	8.6	8.1	8.1		6.4	5.7	6.8	7.3		7.3			
5.0	5.2	5.9	5.2	7.1					7.0	5.8	5.3	5.7	6.1	5.7	6.1			7.1	8.8	6.3	7.4	6.3	6.1	8.2	7.5	6.9	8.2	5.3	5.3	5.7	5.2	6.4			5.1
4.9	4.5	4.6	5.1							6.9	5.3	5.3	4.8	4.7				7.3	6.0	5.4	4.5	6.2	5.9	7.1	8.6	8.1		4.8	4.8	4.0	4.5	5.6	13.8	6.7	5.5
6.2	5.3	5.6								5.5	7.2	6.9	5.7						6.4	5.2	4.9	7.1	7.4	5.7	5.3	5.4	5.8	5.5	5.5	4.7	4.5	4.5	5.1	7.1	7.5
5.2	6.6									6.9	7.5	7.4							6.1	6.5	5.8								8.8	5.8	5.3	5.2	5.5	5.3	5.0
4.1	4.3	4.2	3.4																		5.1	6.1	5.9	7.5	6.4			5.5	5.5	4.9	5.1		6.4	5.1	4.7
		3.6	3.6	5.0	3.9																	4.9			6.2	6.0	4.0								

Figure 7b. AIRCRAFT 1000 - 301 hPa RMS O-B vector (ms-1). AUGUST 2005
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present



150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
16.3
3.6 4.8 4.2 3.5 4.5 6.5 7.7 6.6 7.0 10.1 4.6 3.8 3.8 3.5 8.6 5.9
4.3 5.6 4.2 5.2 4.7 4.9 4.1 3.5 7.4 6.4 8.3 8.9 8.7 7.0 3.4 3.3 3.3 3.4 3.5 3.4 3.6 3.3 4.0 5.5 5.3
4.0 4.6 3.9 4.2 4.1 3.8 4.0 4.4 5.2 5.1 12.6 8.1 6.1 6.6 3.7 3.8 3.8 3.7 3.5 3.6 3.9 4.7 9.9 5.7 5.3 3.6 3.9 3.9 4.6 3.9 5.9 7.1
6.7 5.0 3.2 3.5 4.4 3.5 3.8 3.6 4.1 6.2 6.4 3.7 4.0 4.2 3.8 3.8 3.4 5.7 3.9 4.0 4.3 3.8 3.7 5.5
5.4 3.3 4.8 4.4 4.2 3.9 3.7 3.3 2.8 3.7 3.9 4.4 3.9 3.6 4.4 4.2 4.2 3.8 3.9 3.5 4.5
4.3 4.4 4.7 3.8 3.8 3.8 3.3 3.8 5.1 4.5 5.0 4.0 4.7 5.2 4.8 4.3 5.3 4.3 4.7
5.3 5.7 5.7 3.3 3.6 4.4 5.3 5.7 3.8 2.8
5.7 4.4 5.0 4.0 3.8
6.4 5.4 4.7 4.8 4.1 6.4 5.5 5.1 5.3 4.1 4.3 4.1 9.9
3.9 6.9 4.5 4.0 4.5 4.4 3.9 7.7 10.9
17.3 8.8 5.3 4.8 4.2 5.1 4.7 4.7 4.0 5.8 3.7
4.3 4.5

TABLE 5

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :00 UTC and 12 UTC.

Level(s) monitored :Standard levels between 1000.0 - 30.0 hPa

Element monitored :GEOPOTENTIAL HEIGHT IN metres

Parameters monitored

:NUM OBS :Number of observations available at level shown during period.

:NUM GROSS :Number of gross errors at level shown during period.

:% REJ :Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.

:SD :SD of difference of observations from background values at level shown excluding those with gross errors.

:BIAS :Mean difference of observations from background values at level shown excluding those with gross errors.

:RMS :Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

:NUM LEVELS :Number of levels satisfying selection criteria.

GROSS ERROR LIMITS :Defined in Appendix I.1

SELECTION CRITERIA : ≥3 levels with ≥10 observations and ≥ 100 m weighted RMS.

ONLY THE WORST LEVEL IS SHOWN WITH UNWEIGHTED RMS

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
20744	00	Z	1000	72/ 53	18	3	30.3	-38.2	48.8	4
23418	00	Z	200	65/ 57	23	1	45.0	125.7	133.5	7
23418	12	Z	200	65/ 57	29	0	43.3	148.1	154.3	9
42027	00	Z	200	34/ 75	10	0	48.1	-109.9	120.0	4
42101	00	Z	100	30/ 76	23	4	95.4	-138.5	168.2	4
42182	00	Z	100	29/ 77	23	6	58.5	-208.4	216.5	9
42182	12	Z	50	29/ 77	13	0	73.8	148.8	166.0	4
42314	00	Z	150	27/ 95	21	1	68.5	-153.4	168.0	6
42314	12	Z	100	27/ 95	3	7	10.4	-269.0	269.2	6
42339	00	Z	150	26/ 73	19	5	63.3	-192.5	202.7	9
42339	12	Z	1000	26/ 73	1	24	0.0	-82.0	82.0	10
42361	00	Z	150	26/ 78	8	5	108.0	-166.0	198.0	6
42361	12	Z	200	26/ 78	10	0	100.7	-122.6	158.6	6
42369	00	Z	1000	27/ 81	1	26	0.0	-99.0	99.0	11
42369	12	Z	200	27/ 81	16	2	147.0	-18.7	148.2	8
42379	00	Z	250	27/ 83	10	0	89.1	-60.2	107.5	4
42379	12	Z	200	27/ 83	8	3	68.4	-136.1	152.3	6
42397	00	Z	200	27/ 88	9	1	53.9	-104.1	117.3	6
42397	12	Z	150	27/ 88	12	1	124.3	17.7	125.5	6
42410	00	Z	200	26/ 92	9	1	60.5	-177.9	187.9	7
42410	12	Z	300	26/ 92	10	1	79.5	-103.5	130.5	5
42492	00	Z	1000	26/ 85	21	7	15.7	-81.0	82.5	9
42492	12	Z	1000	26/ 85	20	9	15.2	-83.3	84.7	8
42667	12	Z	200	23/ 77	13	0	133.7	-51.6	143.4	4
42701	00	Z	150	23/ 85	21	2	97.9	-100.7	140.4	7
42701	12	Z	150	23/ 85	23	0	93.8	-109.6	144.2	9
42724	00	Z	100	24/ 91	10	1	67.2	-194.4	205.7	5
42724	12	Z	150	24/ 91	10	1	52.7	-198.5	205.4	4
42809	00	Z	200	23/ 88	18	2	43.1	-179.3	184.4	11
42809	12	Z	100	23/ 88	5	9	17.1	-271.4	271.9	10
42867	00	Z	150	21/ 79	17	3	45.7	-208.4	213.4	9
42867	12	Z	200	21/ 79	12	5	44.2	-151.1	157.4	8
42874	00	Z	150	21/ 82	8	4	56.9	-158.4	168.3	6
42874	12	Z	150	21/ 82	9	3	160.7	-77.2	178.3	4
42971	00	Z	1000	20/ 86	28	0	24.1	-56.4	61.3	6
42971	12	Z	1000	20/ 86	29	1	21.5	-66.9	70.3	6
43003	00	Z	1000	19/ 73	14	14	8.5	-88.4	88.8	11
43003	12	Z	1000	19/ 73	13	13	8.6	-85.4	85.8	9
43014	12	Z	400	20/ 75	24	0	64.5	29.2	70.8	4
43041	00	Z	150	19/ 82	10	0	67.5	-133.2	149.3	5
43128	00	Z	150	17/ 78	17	2	69.0	-145.2	160.7	5
43128	12	Z	150	17/ 78	12	0	108.1	-118.8	160.6	6
43150	00	Z	150	18/ 83	21	0	89.5	-106.1	138.9	9
43150	12	Z	150	18/ 83	20	3	102.8	-144.9	177.7	9
43192	00	Z	150	15/ 74	14	1	57.3	-156.4	166.6	4
43279	00	Z	150	13/ 80	17	0	71.0	-70.0	99.7	4
43279	12	Z	1000	13/ 80	31	0	13.1	-48.9	50.6	4
43285	00	Z	200	13/ 75	24	1	53.7	-117.5	129.1	4
43285	12	Z	150	13/ 75	15	0	53.0	-131.6	141.9	4
43295	00	Z	100	13/ 78	12	0	63.8	-128.4	143.4	4
43333	00	Z	150	12/ 93	26	2	80.0	-125.3	148.7	5
43333	12	Z	150	12/ 93	26	1	62.8	-141.0	154.3	6
43346	00	Z	50	11/ 80	10	1	145.4	146.2	206.2	9
43353	00	Z	1000	10/ 76	20	2	7.5	-80.6	80.9	6
43353	12	Z	1000	10/ 76	24	3	6.4	-86.1	86.4	5
43369	00	Z	200	8/ 73	9	1	95.2	-114.9	149.2	6
43371	00	Z	150	8/ 77	23	4	74.5	-177.7	192.6	8
61902	12	Z	1000	-8/ -14	19	0	28.8	46.5	54.7	5
84378	12	Z	1000	-4/ -73	15	0	18.0	44.3	47.9	4

84416	12	Z	850	-5/ -81	14	0	10.9	77.3	78.0	9
96163	00	Z	1000	-1/ 100	10	4	49.1	-71.7	86.9	11
96935	00	Z	1000	-7/ 113	10	1	11.7	-69.0	70.0	9
97072	00	Z	70	-1/ 120	11	0	100.2	106.7	146.4	6
97180	00	Z	200	-5/ 120	8	2	79.6	-24.1	83.1	5

Figure 8. TEMP 500 hPa geopotential mean daily count. AUGUST 2005
All hours
Global average number of observations in 24 hours = 1227

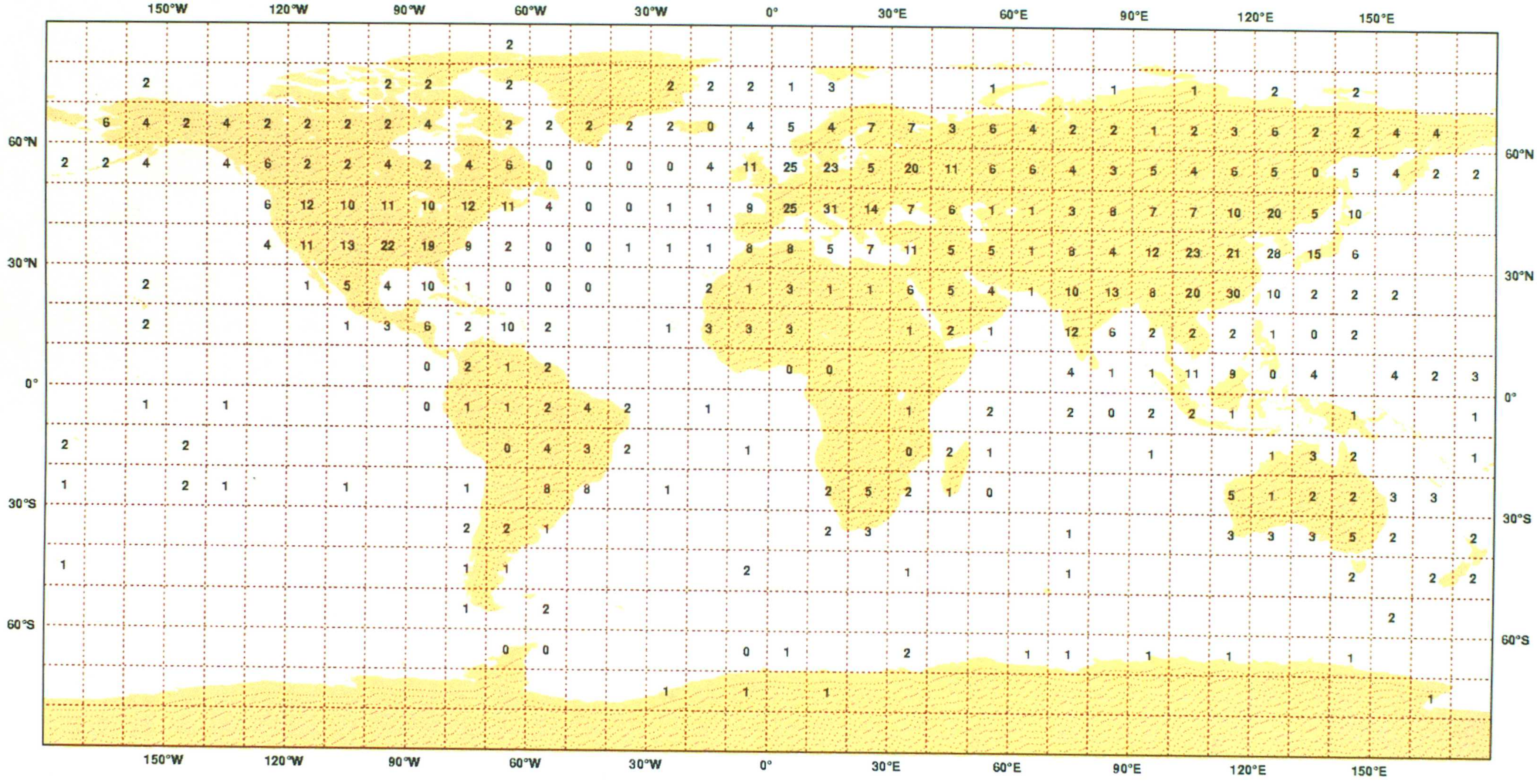

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

TABLE 6

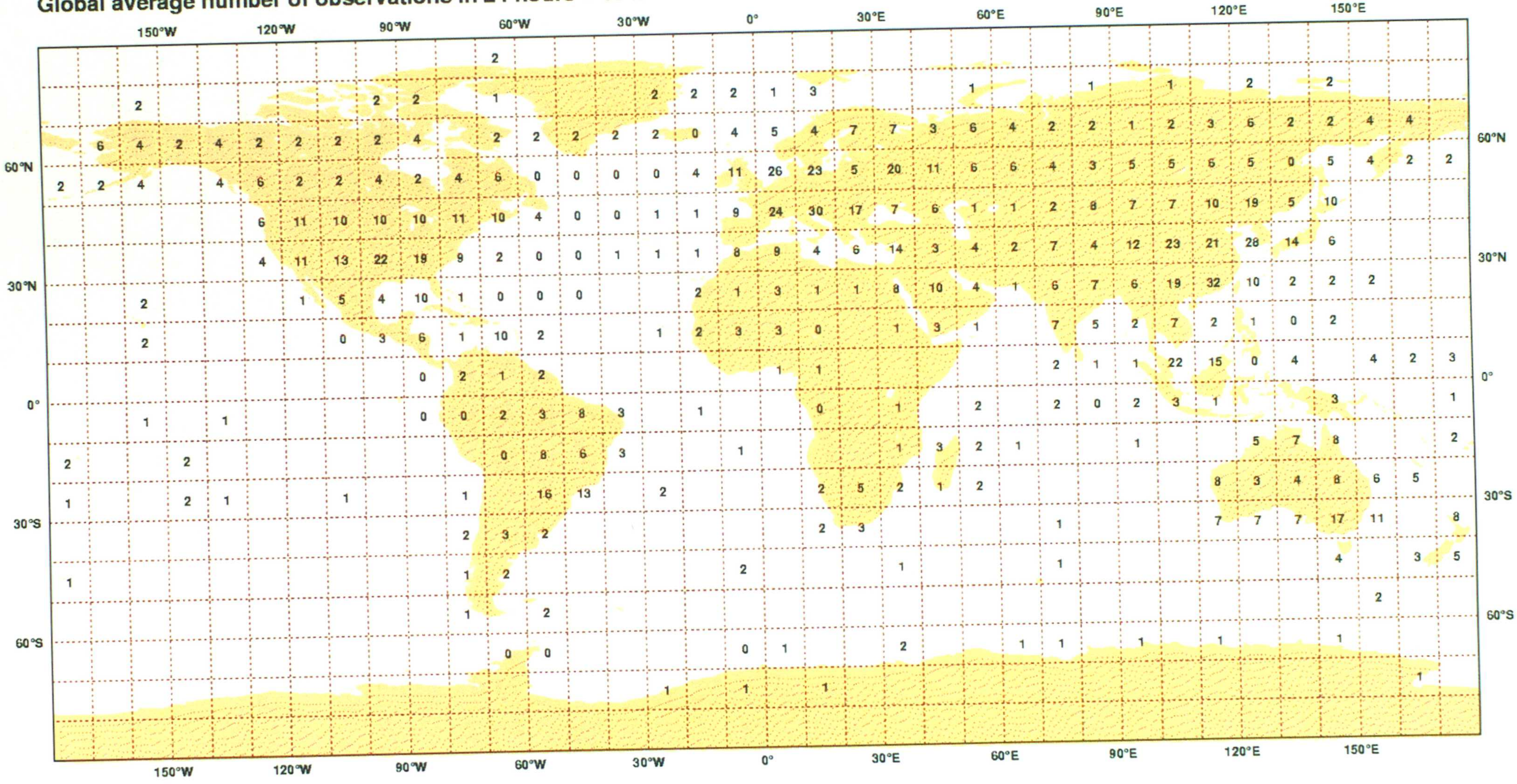
MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures		
Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 100.0 hPa
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.2	
SELECTION CRITERIA	: ≥ 10 observations and ≥ 15 m s^{-1} RMS vector wind.	

ONLY THE STANDARD LEVEL BETWEEN 1000 - 100 hPa WITH HIGHEST RMS IS SHOWN

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	% REJ	UBIAS	VBIAS	RMS	LEVELS
JNSR	00	V	100	1/ 89	10	0	10	6.8	0.5	16.3	1
07761	12	V	150	42/ 9	23	0	21	-4.5	3.1	18.3	1
08001	00	V	150	43/ -8	18	0	33	-10.3	-11.5	18.2	1
08001	12	V	200	43/ -8	24	0	20	-9.7	-6.3	15.3	1
08023	00	V	200	43/ -4	26	0	38	-10.7	-13.4	20.2	3
12982	00	V	250	46/ 20	25	0	40	-3.6	-1.9	19.8	3
43128	00	V	100	17/ 78	12	0	16	13.5	-2.5	15.3	1
43150	00	V	100	18/ 83	11	0	45	13.5	-0.5	16.9	1
43333	00	V	100	12/ 93	17	0	100	9.7	9.7	16.3	2
43369	00	V	200	8/ 73	10	0	100	4.5	3.7	15.5	1
43371	00	V	100	8/ 77	12	0	100	15.1	-1.4	18.4	1
43599	12	V	100	-1/ 73	27	0	100	15.8	-4.4	18.1	1
44277	12	V	200	46/ 96	27	0	25	12.1	1.9	20.1	3
47058	00	V	250	39/ 126	16	0	100	-5.8	1.0	16.7	2
60590	12	V	150	31/ 3	15	0	100	-15.3	1.6	19.6	5
63741	00	V	100	-1/ 37	10	0	100	18.1	4.6	24.5	1
64400	12	V	100	-5/ 12	12	0	100	14.1	-2.0	18.7	1
64458	12	V	100	2/ 16	23	0	100	14.9	-0.8	19.4	1
68461	12	V	500	-28/ 28	12	3	100	12.6	-1.5	19.7	1
89009	00	V	300	-90/ 0	20	0	100	-4.5	-13.1	17.8	3
94653	00	V	100	-32/ 134	21	0	23	11.4	3.0	15.9	1
94672	12	V	300	-35/ 139	31	0	3	-3.8	-0.1	19.4	1
96163	00	V	150	-1/ 100	11	0	100	12.0	7.4	18.3	2
97180	00	V	200	-5/ 120	10	0	100	0.6	-1.1	19.2	1

Figure 9. TEMP/PILOT 300 hPa wind mean daily count. AUGUST 2005
All hours
Global average number of observations in 24 hours = 1349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60°N
30°N
0°
30°S
60°S
2
2 2 2 1 2 2 2 1 3 1 1 1 2 2
6 4 2 4 2 2 2 2 4 2 2 2 2 2 0 4 5 4 7 7 3 6 4 2 2 1 2 3 6 2 2 4 4
2 2 4 4 6 2 2 4 2 4 6 0 0 0 0 4 11 26 23 5 20 11 6 6 4 3 5 5 6 5 0 5 4 2 2
6 11 10 10 10 11 10 4 0 0 1 1 9 24 30 17 7 6 1 1 2 8 7 7 10 19 5 10
4 11 13 22 19 9 2 0 0 1 1 1 8 9 4 6 14 3 4 2 7 4 12 23 21 28 14 6
2 1 5 4 10 1 0 0 0 2 1 3 1 1 8 10 4 1 6 7 6 19 32 10 2 2 2
2 0 3 6 1 10 2 1 2 3 3 0 1 3 1 7 5 2 7 2 1 0 2
0 2 1 2 1 1 2 1 1 22 15 0 4 4 2 3
1 1 0 0 2 3 8 3 1 0 1 2 2 0 2 3 1 3 1
2 2 0 8 6 3 1 1 3 2 1 1 5 7 8 2
1 2 1 1 1 16 13 2 2 5 2 1 2 8 3 4 8 6 5
2 3 2 2 3 1 7 7 7 17 11 8
1 1 2 2 1 1 4 3 5
1 2 2
0 0 0 1 2 1 1 1 1 1
1 1 1 1

TABLE 7

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :00 UTC and 12 UTC.

Level(s) monitored :Standard levels between 500.0 - 150.0 hPa

Element monitored :WIND DIRECTION in degrees

Parameters monitored

:NUM OBS :Average number of observations at all levels.

:BIAS :Mean difference of observations from background values from all levels.

:MAX SPREAD :(For observation - background values) Maximum absolute difference of SD at any level from SD at all levels

:SD :SD of difference of observations from background values at all levels.

SELECTION CRITERIA :NUM OBS ≥ 5, and
ABSOLUTE BIAS ≥ 10°, with
SD < 30°, and
MAX SPREAD < 10°

WMO IDENT	OBS TIME	ELM	LAT/LONG	NUM OBS	BIAS	MAX SPREAD	SD
08001	00	DD	43/ -8	19	24.6	8.1	26.5
08001	12	DD	43/ -8	17	38.9	2.6	29.7
08594	12	DD	17/ -23	16	11.7	8.3	18.9
33791	12	DD	48/ 33	23	-11.6	4.0	9.0
34731	00	DD	47/ 40	23	12.6	5.7	15.6
34731	12	DD	47/ 40	22	12.8	6.8	14.9
41112	12	DD	18/ 43	21	-14.3	8.1	20.4
43150	00	DD	18/ 83	16	-12.0	8.5	17.6
43333	00	DD	12/ 93	22	13.1	5.5	19.5
48565	00	DD	8/ 98	14	16.6	8.9	20.3
48568	00	DD	7/ 101	21	11.1	5.6	17.3
48568	12	DD	7/ 101	16	11.2	4.9	18.2
48615	00	DD	6/ 102	24	10.3	5.3	16.7
58968	00	DD	25/ 122	21	16.5	5.8	16.9
58968	12	DD	25/ 122	20	17.2	7.8	17.8
61995	12	DD	-20/ 57	23	-13.8	9.4	20.6
62337	00	DD	31/ 34	22	-25.8	4.1	10.9
78397	12	DD	18/ -77	10	13.6	6.3	19.8
82397	12	DD	-4/ -39	7	-10.3	9.0	25.8
96471	12	DD	6/ 116	23	10.1	8.8	20.9

MONITORING OF SATELLITE WINDS

MONITORING CENTRE: EXETER

MONTH: Aug 2005

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from GOES-9, GOES-10, GOES-12, METEOSAT-5, METEOSAT-7

Standard of comparison :Background field from UKMO global model.

Selection Criteria :number of observations > 10.

Data Extracted :Layer 701 - 1000 hPa
401 - 700 hPa
101 - 400 hPa

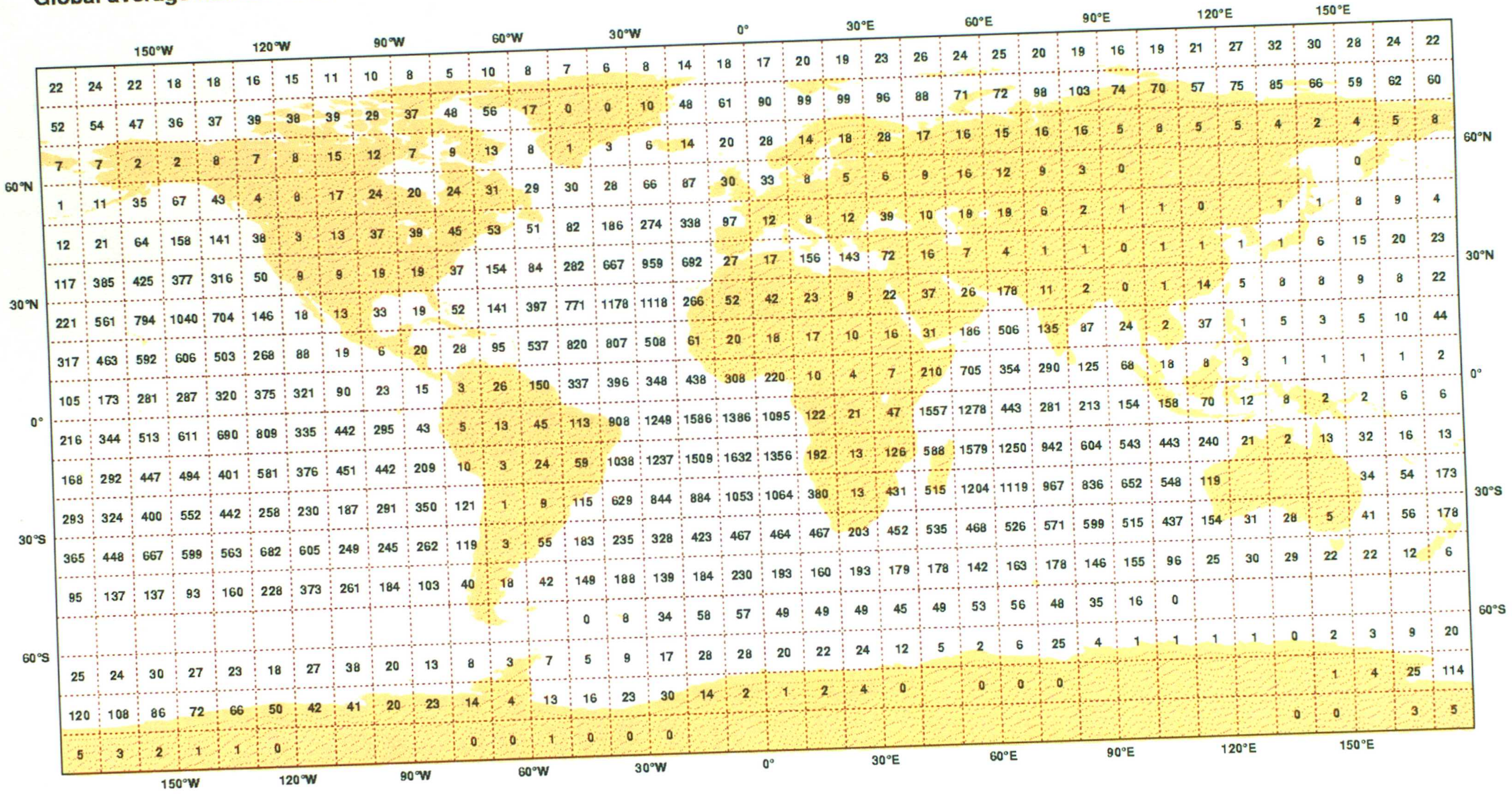
:Mean wind

:Mean observation minus background vector wind differences

:Mean observation minus background speed differences

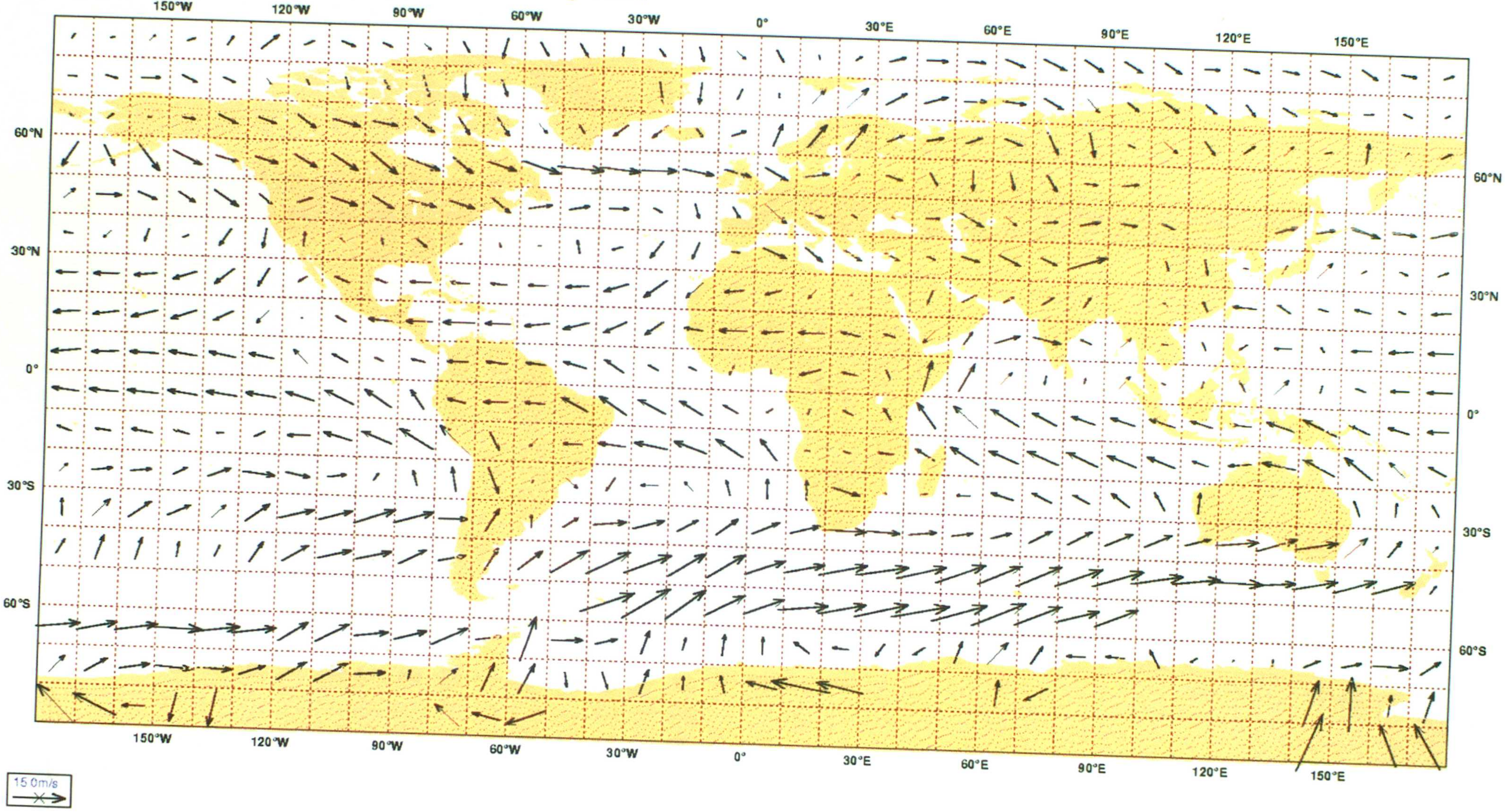
:RMS of observation minus background vector differences

Figure 10. SATOB 701 - 1000 hPa mean daily count. AUGUST 2005
Global average number of observations in 24 hours = 97992



22	24	22	18	18	16	15	11	10	8	5	10	8	7	6	8	14	18	17	20	19	23	26	24	25	20	19	16	19	21	27	32	30	28	24	22
52	54	47	36	37	39	38	39	29	37	48	56	17	0	0	10	48	61	90	99	99	96	88	71	72	98	103	74	70	57	75	85	66	59	62	60
7	7	2	2	8	7	8	15	12	7	9	13	8	1	3	6	14	20	28	14	18	28	17	16	15	16	16	5	8	5	5	4	2	4	5	8
1	11	35	67	43	4	8	17	24	20	24	31	29	30	28	66	87	30	33	8	5	6	9	16	12	9	3	0						0		
12	21	64	158	141	38	3	13	37	39	45	53	51	82	186	274	338	97	12	8	12	39	10	19	19	6	2	1	1	0		1	1	8	9	4
117	385	425	377	316	50	8	9	19	19	37	154	84	282	667	959	692	27	17	156	143	72	16	7	4	1	1	0	1	1	1	1	6	15	20	23
221	561	794	1040	704	146	18	13	33	19	52	141	397	771	1178	1118	266	52	42	23	9	22	37	26	178	11	2	0	1	14	5	8	8	9	8	22
317	463	592	606	503	268	88	19	6	20	28	95	537	820	807	508	61	20	18	17	10	16	31	186	506	135	87	24	2	37	1	5	3	5	10	44
105	173	281	287	320	375	321	90	23	15	3	26	150	337	396	348	438	308	220	10	4	7	210	705	354	290	125	68	18	8	3	1	1	1	1	2
216	344	513	611	690	809	335	442	295	43	5	13	45	113	908	1249	1586	1386	1095	122	21	47	1557	1278	443	281	213	154	158	70	12	8	2	2	6	6
168	292	447	494	401	581	376	451	442	209	10	3	24	59	1038	1237	1509	1632	1356	192	13	126	588	1579	1250	942	604	543	443	240	21	2	13	32	16	13
293	324	400	552	442	258	230	187	291	350	121	1	9	115	629	844	884	1053	1064	380	13	431	515	1204	1119	967	836	652	548	119				34	54	173
365	448	667	599	563	682	605	249	245	262	119	3	55	183	235	328	423	467	464	467	203	452	535	468	526	571	599	515	437	154	31	28	5	41	56	178
95	137	137	93	160	228	373	261	184	103	40	18	42	149	188	139	184	230	193	160	193	179	178	142	163	178	146	155	96	25	30	29	22	22	12	6
													0	8	34	58	57	49	49	49	45	49	53	56	48	35	16	0							
25	24	30	27	23	18	27	38	20	13	8	3	7	5	9	17	28	28	20	22	24	12	5	2	6	25	4	1	1	1	1	0	2	3	9	20
120	108	86	72	66	50	42	41	20	23	14	4	13	16	23	30	14	2	1	2	4	0		0	0	0							1	4	25	114
5	3	2	1	1	0					0	0	1	0	0	0																0	0		3	5

Figure 11. SATOB 701 - 1000 hPa vector mean wind. AUGUST 2005
All observations
Arrows are plotted where greater than 10 obs are present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120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 12. SATOB 701 - 1000 hPa mean vector wind differences. AUGUST 2005
All observations
Arrows are plotted where greater than 10 obs are present

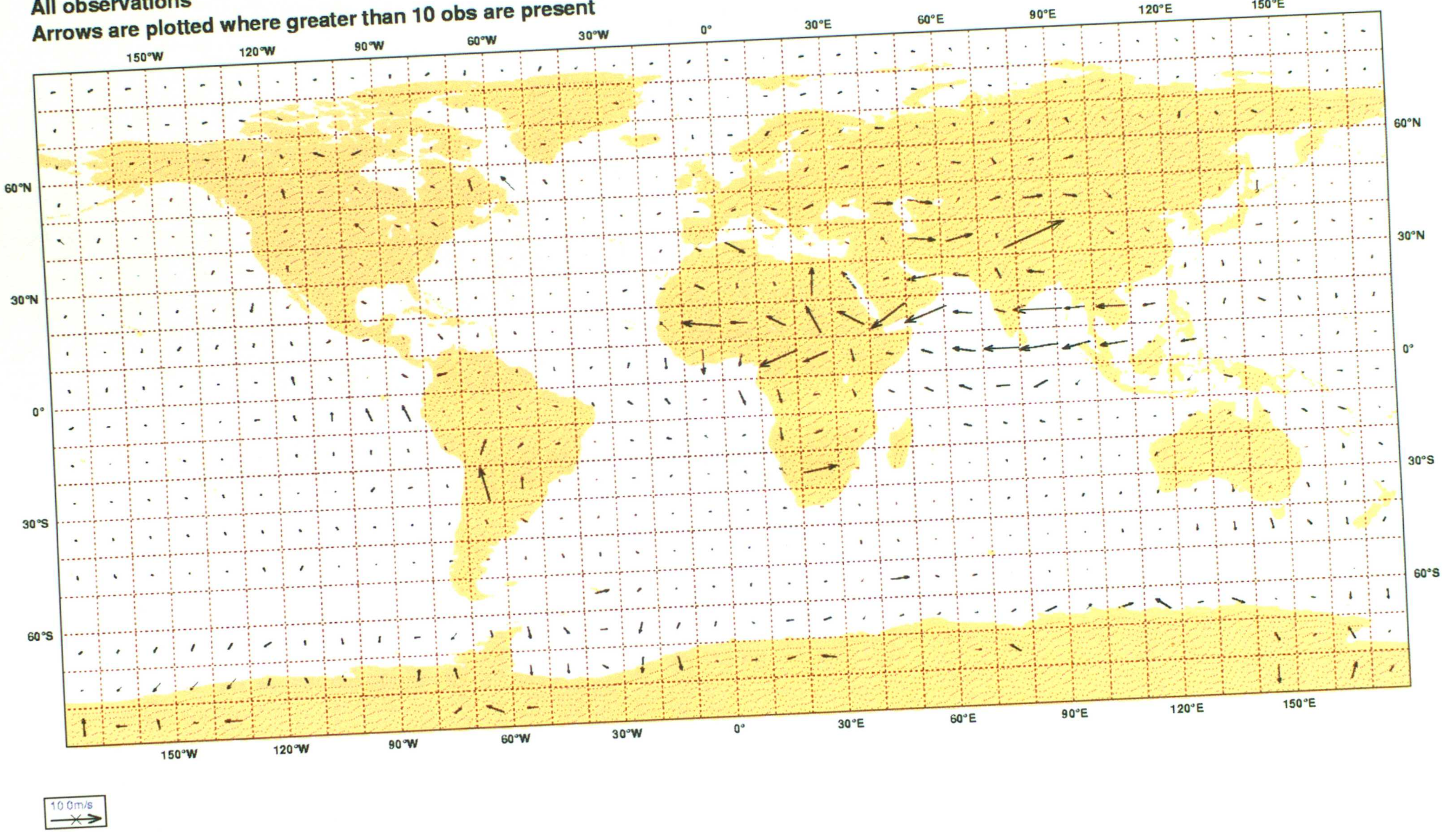
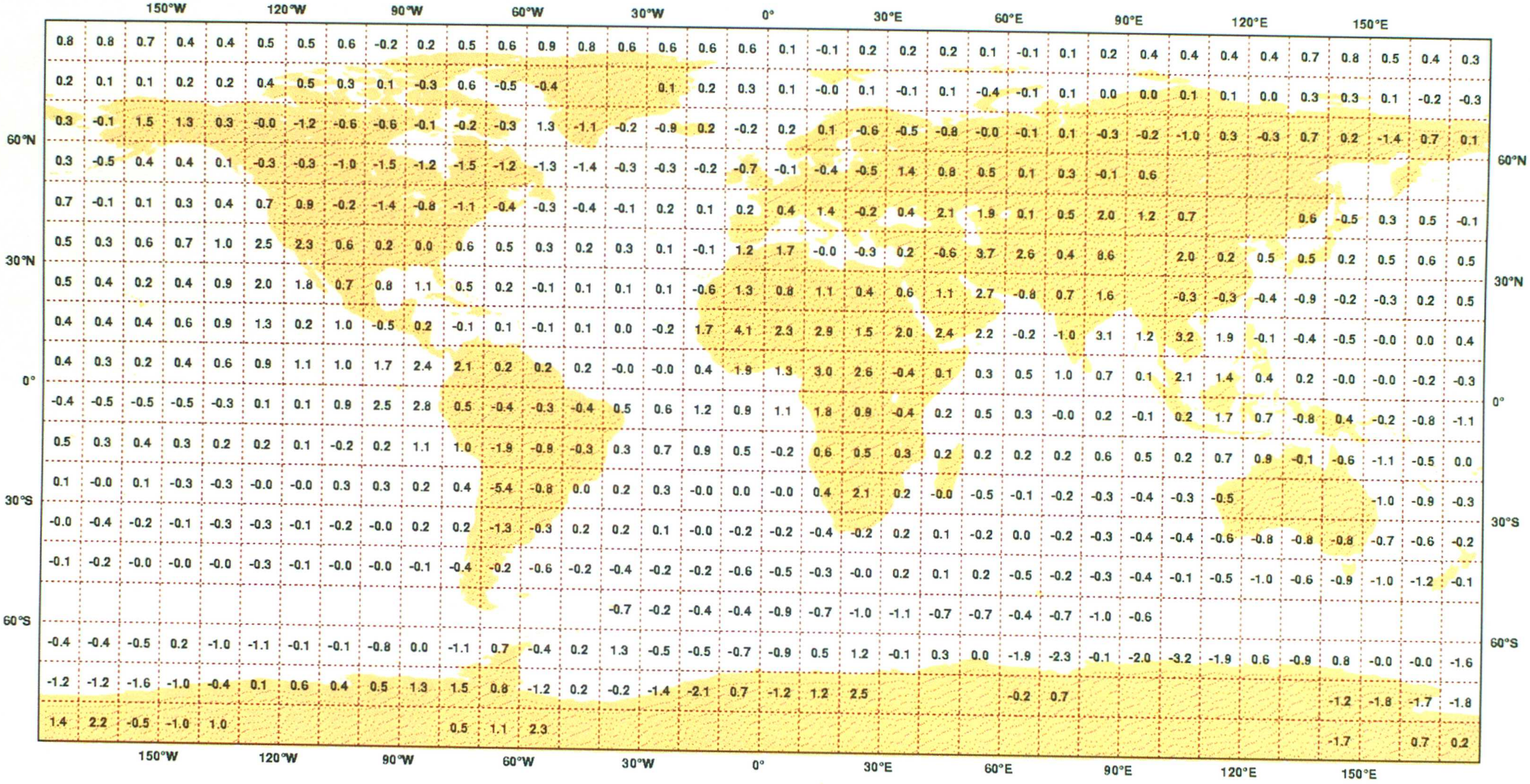

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 13. SATOB 701 - 1000 hPa mean O-B speed differences (ms-1). AUGUST 2005
All observations
Values are plotted where greater than 10 obs are present



0.8	0.8	0.7	0.4	0.4	0.5	0.5	0.6	-0.2	0.2	0.5	0.6	0.9	0.8	0.6	0.6	0.6	0.6	0.1	-0.1	0.2	0.2	0.2	0.1	-0.1	0.1	0.2	0.4	0.4	0.4	0.4	0.7	0.8	0.5	0.4	0.3
0.2	0.1	0.1	0.2	0.2	0.4	0.5	0.3	0.1	-0.3	0.6	-0.5	-0.4			0.1	0.2	0.3	0.1	-0.0	0.1	-0.1	0.1	-0.4	-0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.3	0.3	0.1	-0.2	-0.3
0.3	-0.1	1.5	1.3	0.3	-0.0	-1.2	-0.6	-0.6	-0.1	-0.2	-0.3	1.3	-1.1	-0.2	-0.9	0.2	-0.2	0.2	0.1	-0.6	-0.5	-0.8	-0.0	-0.1	0.1	-0.3	-0.2	-1.0	0.3	-0.3	0.7	0.2	-1.4	0.7	0.1
0.3	-0.5	0.4	0.4	0.1	-0.3	-0.3	-1.0	-1.5	-1.2	-1.5	-1.2	-1.3	-1.4	-0.3	-0.3	-0.2	-0.7	-0.1	-0.4	-0.5	1.4	0.8	0.5	0.1	0.3	-0.1	0.6								
0.7	-0.1	0.1	0.3	0.4	0.7	0.9	-0.2	-1.4	-0.8	-1.1	-0.4	-0.3	-0.4	-0.1	0.2	0.1	0.2	0.4	1.4	-0.2	0.4	2.1	1.9	0.1	0.5	2.0	1.2	0.7			0.6	-0.5	0.3	0.5	-0.1
0.5	0.3	0.6	0.7	1.0	2.5	2.3	0.6	0.2	0.0	0.6	0.5	0.3	0.2	0.3	0.1	-0.1	1.2	1.7	-0.0	-0.3	0.2	-0.6	3.7	2.6	0.4	8.6		2.0	0.2	0.5	0.5	0.2	0.5	0.6	0.5
0.5	0.4	0.2	0.4	0.9	2.0	1.8	0.7	0.8	1.1	0.5	0.2	-0.1	0.1	0.1	0.1	-0.6	1.3	0.8	1.1	0.4	0.6	1.1	2.7	-0.8	0.7	1.6		-0.3	-0.3	-0.4	-0.9	-0.2	-0.3	0.2	0.5
0.4	0.4	0.4	0.6	0.9	1.3	0.2	1.0	-0.5	0.2	-0.1	0.1	-0.1	0.1	0.0	-0.2	1.7	4.1	2.3	2.9	1.5	2.0	2.4	2.2	-0.2	-1.0	3.1	1.2	3.2	1.9	-0.1	-0.4	-0.5	-0.0	0.0	0.4
0.4	0.3	0.2	0.4	0.6	0.9	1.1	1.0	1.7	2.4	2.1	0.2	0.2	0.2	-0.0	-0.0	0.4	1.9	1.3	3.0	2.6	-0.4	0.1	0.3	0.5	1.0	0.7	0.1	2.1	1.4	0.4	0.2	-0.0	-0.0	-0.2	-0.3
-0.4	-0.5	-0.5	-0.5	-0.3	0.1	0.1	0.9	2.5	2.8	0.5	-0.4	-0.3	-0.4	0.5	0.6	1.2	0.9	1.1	1.8	0.9	-0.4	0.2	0.5	0.3	-0.0	0.2	-0.1	0.2	1.7	0.7	-0.8	0.4	-0.2	-0.8	-1.1
0.5	0.3	0.4	0.3	0.2	0.2	0.1	-0.2	0.2	1.1	1.0	-1.9	-0.9	-0.3	0.3	0.7	0.9	0.5	-0.2	0.6	0.5	0.3	0.2	0.2	0.2	0.2	0.6	0.5	0.2	0.7	0.9	-0.1	-0.6	-1.1	-0.5	0.0
0.1	-0.0	0.1	-0.3	-0.3	-0.0	-0.0	0.3	0.3	0.2	0.4	-5.4	-0.8	0.0	0.2	0.3	-0.0	0.0	-0.0	0.4	2.1	0.2	-0.0	-0.5	-0.1	-0.2	-0.3	-0.4	-0.3	-0.5				-1.0	-0.9	-0.3
-0.0	-0.4	-0.2	-0.1	-0.3	-0.3	-0.1	-0.2	-0.0	0.2	0.2	-1.3	-0.3	0.2	0.2	0.1	-0.0	-0.2	-0.2	-0.4	-0.2	0.2	0.1	-0.2	0.0	-0.2	-0.3	-0.4	-0.4	-0.6	-0.8	-0.8	-0.8	-0.7	-0.6	-0.2
-0.1	-0.2	-0.0	-0.0	-0.0	-0.3	-0.1	-0.0	-0.0	-0.1	-0.4	-0.2	-0.6	-0.2	-0.4	-0.2	-0.2	-0.6	-0.5	-0.3	-0.0	0.2	0.1	0.2	-0.5	-0.2	-0.3	-0.4	-0.1	-0.5	-1.0	-0.6	-0.9	-1.0	-1.2	-0.1
														-0.7	-0.2	-0.4	-0.4	-0.9	-0.7	-1.0	-1.1	-0.7	-0.7	-0.4	-0.7	-1.0	-0.6								
-0.4	-0.4	-0.5	0.2	-1.0	-1.1	-0.1	-0.1	-0.8	0.0	-1.1	0.7	-0.4	0.2	1.3	-0.5	-0.5	-0.7	-0.9	0.5	1.2	-0.1	0.3	0.0	-1.9	-2.3	-0.1	-2.0	-3.2	-1.9	0.6	-0.9	0.8	-0.0	-0.0	-1.6
-1.2	-1.2	-1.6	-1.0	-0.4	0.1	0.6	0.4	0.5	1.3	1.5	0.8	-1.2	0.2	-0.2	-1.4	-2.1	0.7	-1.2	1.2	2.5				-0.2	0.7							-1.2	-1.8	-1.7	-1.8
1.4	2.2	-0.5	-1.0	1.0						0.5	1.1	2.3																				-1.7		0.7	0.2

Figure 14. SATOB 701 - 1000 hPa mean RMS O-B vector differences (ms-1). AUGUST 2005
All observations
Values are plotted where greater than 10 obs are present

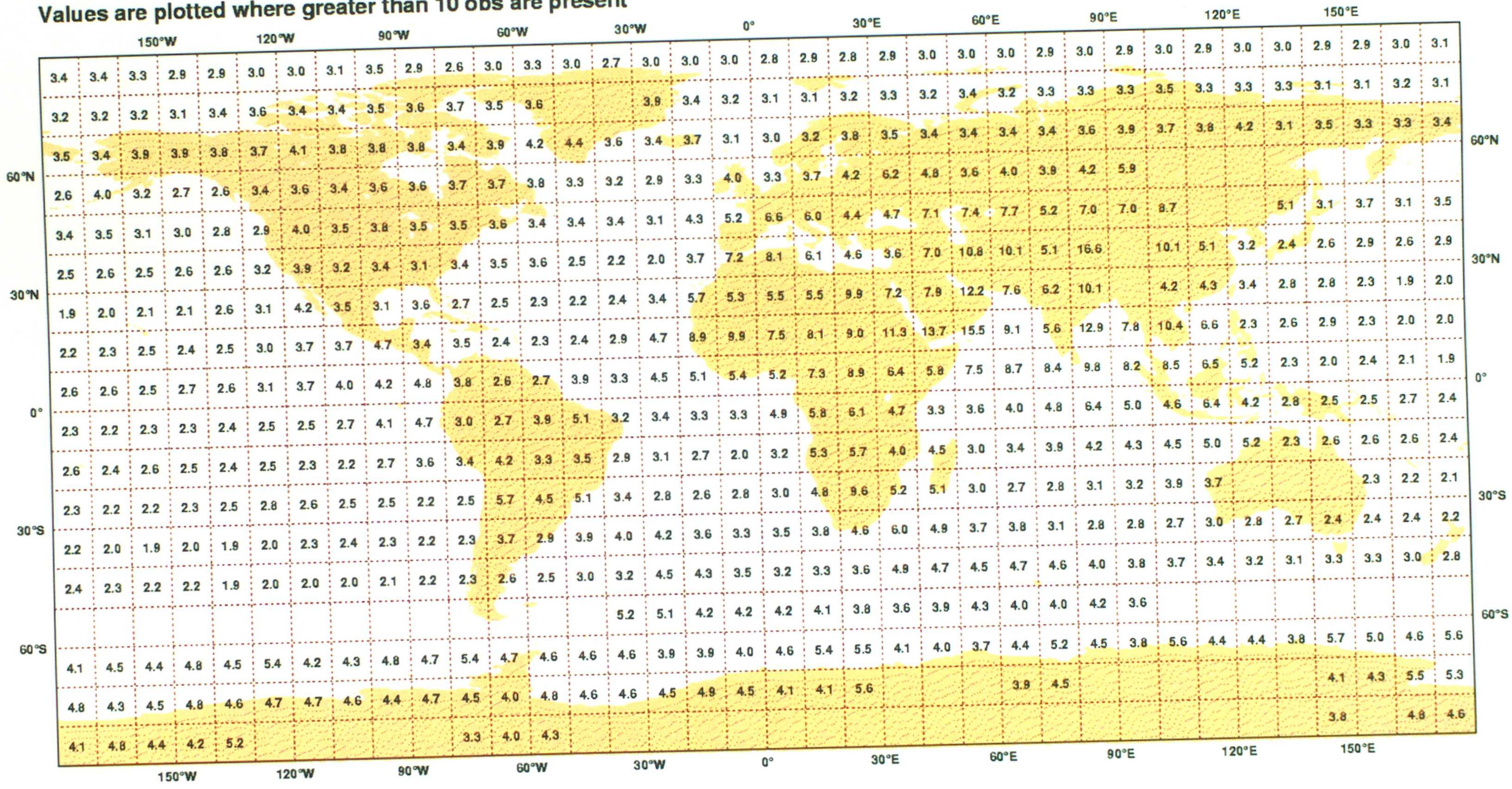
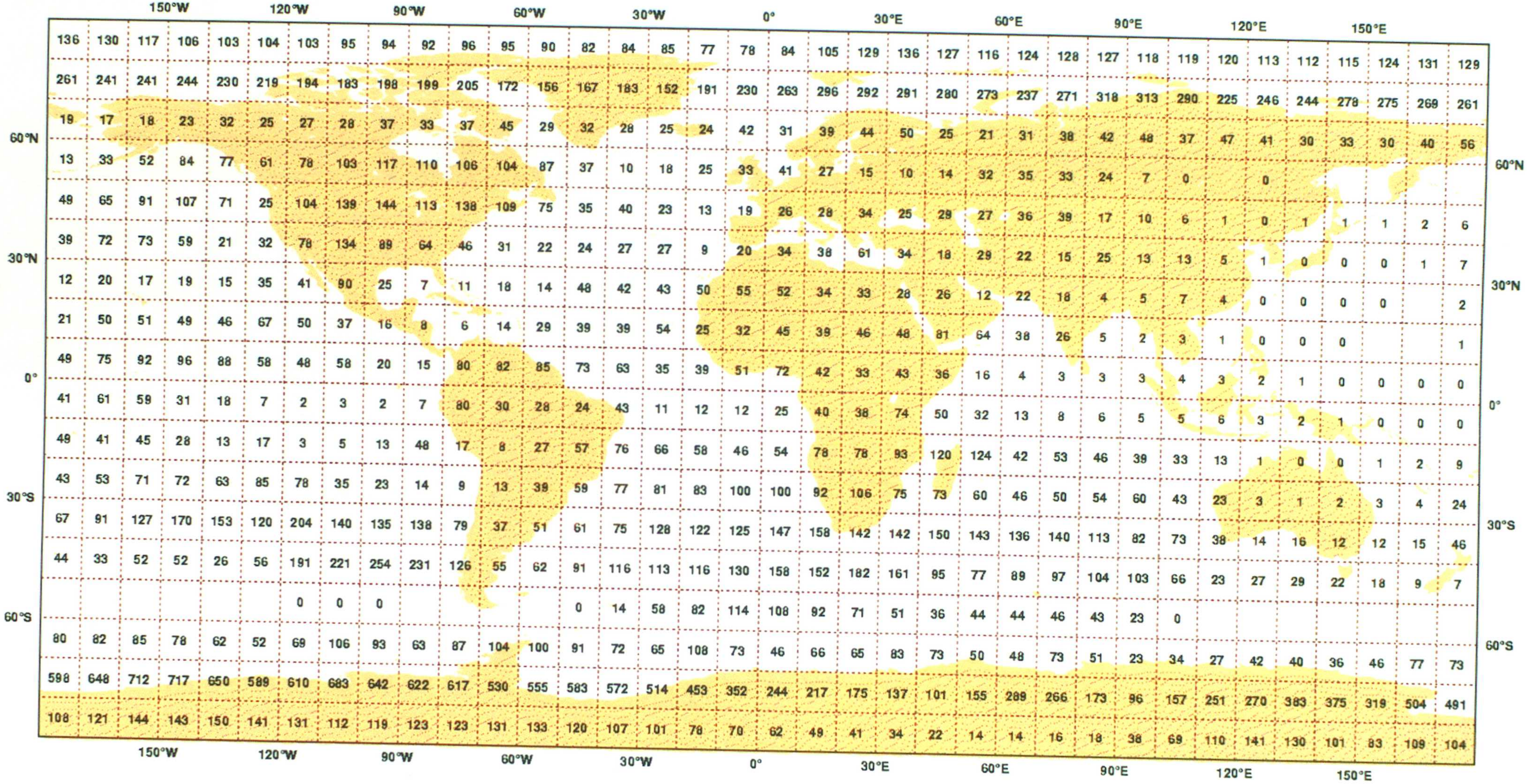

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
3.4 3.4 3.3 2.9 2.9 3.0 3.0 3.1 3.5 2.9 2.6 3.0 3.3 3.0 2.7 3.0 3.0 3.0 2.8 2.9 2.8 2.9 3.0 3.0 3.0 2.9 3.0 2.9 3.0 2.9 3.0 3.0 2.9 2.9 3.0 3.1
3.2 3.2 3.2 3.1 3.4 3.6 3.4 3.4 3.5 3.6 3.7 3.5 3.6 3.9 3.4 3.2 3.1 3.1 3.2 3.3 3.2 3.4 3.2 3.3 3.3 3.3 3.5 3.3 3.3 3.3 3.1 3.1 3.2 3.1
3.5 3.4 3.9 3.9 3.8 3.7 4.1 3.8 3.8 3.8 3.4 3.9 4.2 4.4 3.6 3.4 3.7 3.1 3.0 3.2 3.8 3.5 3.4 3.4 3.4 3.4 3.6 3.9 3.7 3.8 4.2 3.1 3.5 3.3 3.3 3.4
2.6 4.0 3.2 2.7 2.6 3.4 3.6 3.4 3.6 3.6 3.7 3.7 3.8 3.3 3.2 2.9 3.3 4.0 3.3 3.7 4.2 6.2 4.8 3.6 4.0 3.9 4.2 5.9
3.4 3.5 3.1 3.0 2.8 2.9 4.0 3.5 3.8 3.5 3.5 3.6 3.4 3.4 3.4 3.1 4.3 5.2 6.6 6.0 4.4 4.7 7.1 7.4 7.7 5.2 7.0 7.0 8.7 5.1 3.1 3.7 3.1 3.5
2.5 2.6 2.5 2.6 2.6 3.2 3.9 3.2 3.4 3.1 3.4 3.5 3.6 2.5 2.2 2.0 3.7 7.2 8.1 6.1 4.6 3.6 7.0 10.8 10.1 5.1 16.6 10.1 5.1 3.2 2.4 2.6 2.9 2.6 2.9
1.9 2.0 2.1 2.1 2.6 3.1 4.2 3.5 3.1 3.6 2.7 2.5 2.3 2.2 2.4 3.4 5.7 5.3 5.5 5.5 9.9 7.2 7.9 12.2 7.6 6.2 10.1 4.2 4.3 3.4 2.8 2.8 2.3 1.9 2.0
2.2 2.3 2.5 2.4 2.5 3.0 3.7 3.7 4.7 3.4 3.5 2.4 2.3 2.4 2.9 4.7 8.9 9.9 7.5 8.1 9.0 11.3 13.7 15.5 9.1 5.6 12.9 7.8 10.4 6.6 2.3 2.6 2.9 2.3 2.0 2.0
2.6 2.6 2.5 2.7 2.6 3.1 3.7 4.0 4.2 4.8 3.8 2.6 2.7 3.9 3.3 4.5 5.1 5.4 5.2 7.3 8.9 6.4 5.8 7.5 8.7 8.4 9.8 8.2 8.5 6.5 5.2 2.3 2.0 2.4 2.1 1.9
2.3 2.2 2.3 2.3 2.4 2.5 2.5 2.7 4.1 4.7 3.0 2.7 3.9 5.1 3.2 3.4 3.3 3.3 4.9 5.8 6.1 4.7 3.3 3.6 4.0 4.8 6.4 5.0 4.6 6.4 4.2 2.8 2.5 2.5 2.7 2.4
2.6 2.4 2.6 2.5 2.4 2.5 2.3 2.2 2.7 3.6 3.4 4.2 3.3 3.5 2.9 3.1 2.7 2.0 3.2 5.3 5.7 4.0 4.5 3.0 3.4 3.9 4.2 4.3 4.5 5.0 5.2 2.3 2.6 2.6 2.6 2.4
2.3 2.2 2.2 2.3 2.5 2.8 2.6 2.5 2.5 2.2 2.5 5.7 4.5 5.1 3.4 2.8 2.6 2.8 3.0 4.8 9.6 5.2 5.1 3.0 2.7 2.8 3.1 3.2 3.9 3.7 2.3 2.2 2.1
2.2 2.0 1.9 2.0 1.9 2.0 2.3 2.4 2.3 2.2 2.3 3.7 2.9 3.9 4.0 4.2 3.6 3.3 3.5 3.8 4.6 6.0 4.9 3.7 3.8 3.1 2.8 2.8 2.7 3.0 2.8 2.7 2.4 2.4 2.4 2.2
2.4 2.3 2.2 2.2 1.9 2.0 2.0 2.0 2.1 2.2 2.3 2.6 2.5 3.0 3.2 4.5 4.3 3.5 3.2 3.3 3.6 4.9 4.7 4.5 4.7 4.6 4.0 3.8 3.7 3.4 3.2 3.1 3.3 3.3 3.0 2.8
5.2 5.1 4.2 4.2 4.2 4.1 3.8 3.6 3.9 4.3 4.0 4.0 4.2 3.6
4.1 4.5 4.4 4.8 4.5 5.4 4.2 4.3 4.8 4.7 5.4 4.7 4.6 4.6 4.6 3.9 3.9 4.0 4.6 5.4 5.5 4.1 4.0 3.7 4.4 5.2 4.5 3.8 5.6 4.4 4.4 3.8 5.7 5.0 4.6 5.6
4.8 4.3 4.5 4.8 4.6 4.7 4.7 4.6 4.4 4.7 4.5 4.0 4.8 4.6 4.6 4.5 4.9 4.5 4.1 4.1 5.6 3.9 4.5 4.1 4.3 5.5 5.3
4.1 4.8 4.4 4.2 5.2 3.3 4.0 4.3 3.8 4.8 4.6

Figure 15. SATOB 401 - 700 hPa mean daily count. AUGUST 2005
Global average number of observations in 24 hours = 53945



136	130	117	106	103	104	103	95	94	92	96	95	90	82	84	85	77	78	84	105	129	136	127	116	124	128	127	118	119	120	113	112	115	124	131	129
261	241	241	244	230	219	194	183	198	199	205	172	156	167	183	152	191	230	263	296	292	291	280	273	237	271	318	313	290	225	246	244	278	275	269	261
19	17	18	23	32	25	27	28	37	33	37	45	29	32	28	25	24	42	31	39	44	50	25	21	31	38	42	48	37	47	41	30	33	30	40	56
13	33	52	84	77	61	78	103	117	110	106	104	87	37	10	18	25	33	41	27	15	10	14	32	35	33	24	7	0		0					
49	65	91	107	71	25	104	139	144	113	138	109	75	35	40	23	13	19	26	28	34	25	29	27	36	39	17	10	6	1	0	1	1	1	2	6
39	72	73	59	21	32	78	134	89	64	46	31	22	24	27	27	9	20	34	38	61	34	18	29	22	15	25	13	13	5	1	0	0	0	1	7
12	20	17	19	15	35	41	90	25	7	11	18	14	48	42	43	50	55	52	34	33	28	26	12	22	18	4	5	7	4	0	0	0	0		2
21	50	51	49	46	67	50	37	16	8	6	14	29	39	39	54	25	32	45	39	46	48	81	64	38	26	5	2	3	1	0	0	0			1
49	75	92	96	88	58	48	58	20	15	80	82	85	73	63	35	39	51	72	42	33	43	36	16	4	3	3	3	4	3	2	1	0	0	0	0
41	61	59	31	18	7	2	3	2	7	80	30	28	24	43	11	12	12	25	40	38	74	50	32	13	8	6	5	5	6	3	2	1	0	0	0
49	41	45	28	13	17	3	5	13	48	17	8	27	57	76	66	58	46	54	78	78	93	120	124	42	53	46	39	33	13	1	0	0	1	2	9
43	53	71	72	63	85	78	35	23	14	9	13	39	59	77	81	83	100	100	92	106	75	73	60	46	50	54	60	43	23	3	1	2	3	4	24
67	91	127	170	153	120	204	140	135	138	79	37	51	61	75	128	122	125	147	158	142	142	150	143	136	140	113	82	73	38	14	16	12	12	15	46
44	33	52	52	26	56	191	221	254	231	126	55	62	91	116	113	116	130	158	152	182	161	95	77	89	97	104	103	66	23	27	29	22	18	9	7
						0	0	0					0	14	58	82	114	108	92	71	51	36	44	44	46	43	23	0							
80	82	85	78	62	52	69	106	93	63	87	104	100	91	72	65	108	73	46	66	65	83	73	50	48	73	51	23	34	27	42	40	36	46	77	73
598	648	712	717	650	589	610	683	642	622	617	530	555	583	572	514	453	352	244	217	175	137	101	155	289	266	173	96	157	251	270	383	375	319	504	491
108	121	144	143	150	141	131	112	119	123	123	131	133	120	107	101	78	70	62	49	41	34	22	14	14	16	18	38	69	110	141	130	101	83	109	104

Figure 16. SATOB 401 - 700 hPa vector mean wind. AUGUST 2005
All observations
Arrows are plotted where greater than 10 obs are present

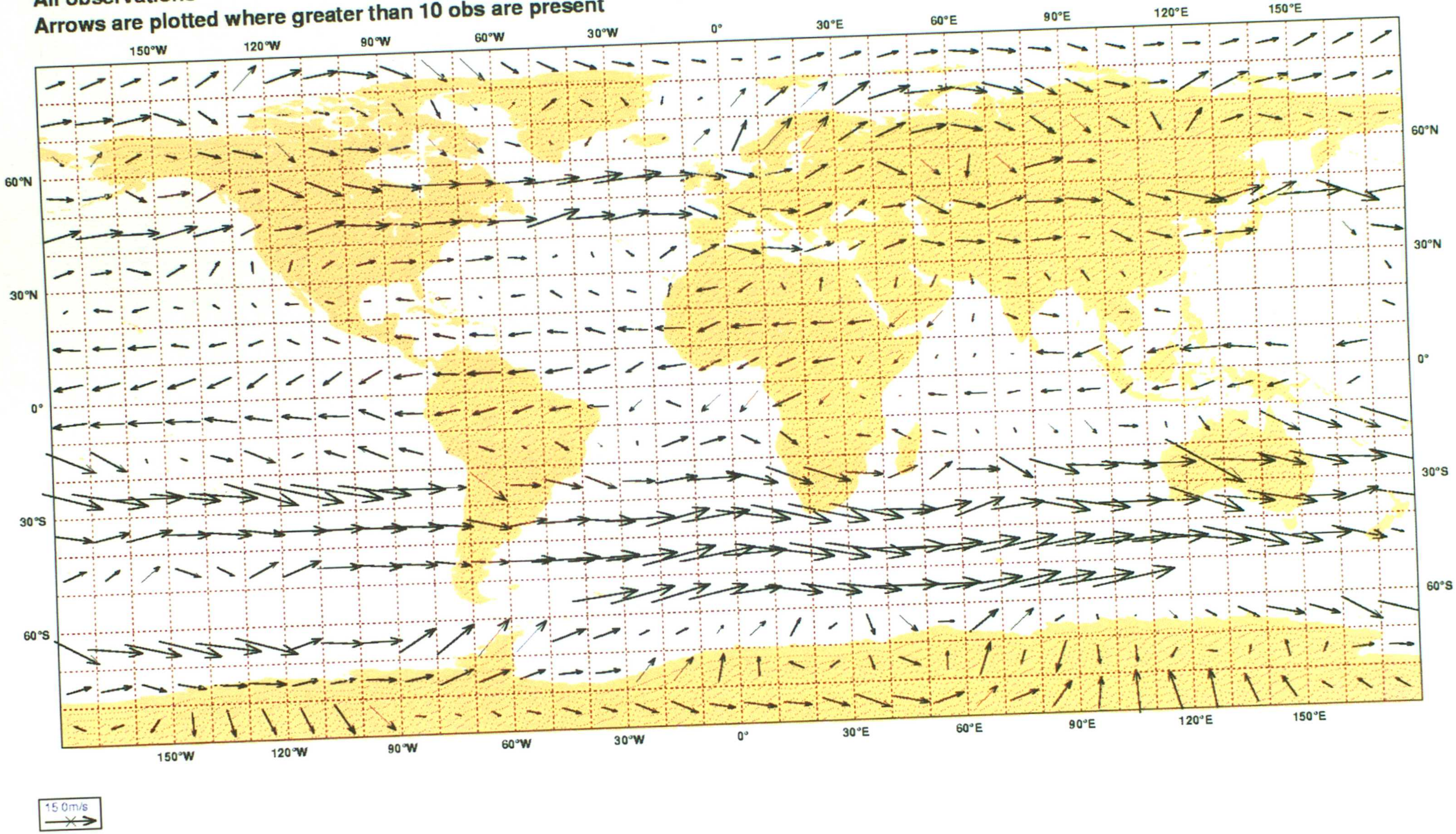

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 17. SATOB 401 - 700 hPa mean vector wind differences. AUGUST 2005
All observations
Arrows are plotted where greater than 10 obs are present

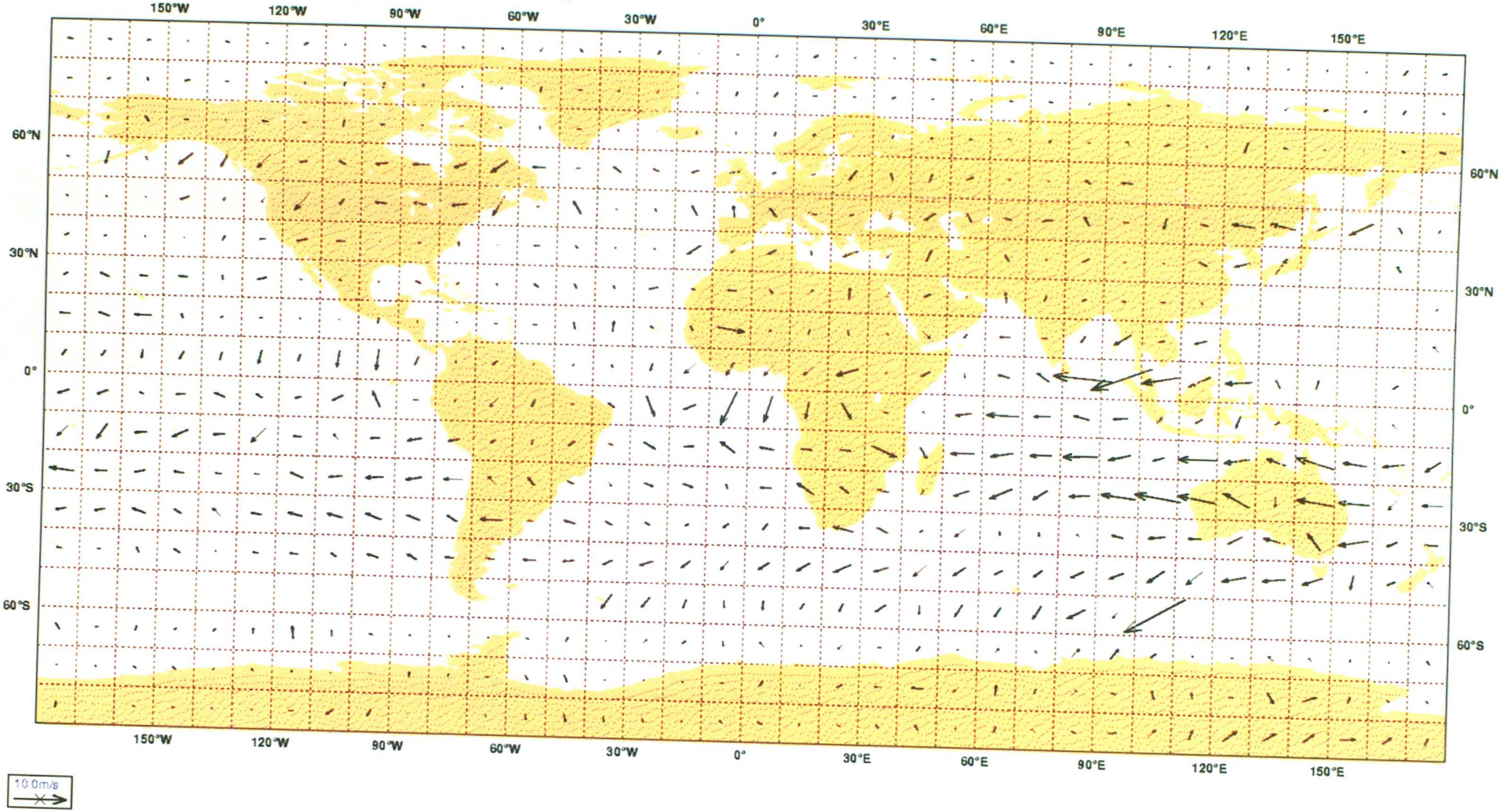
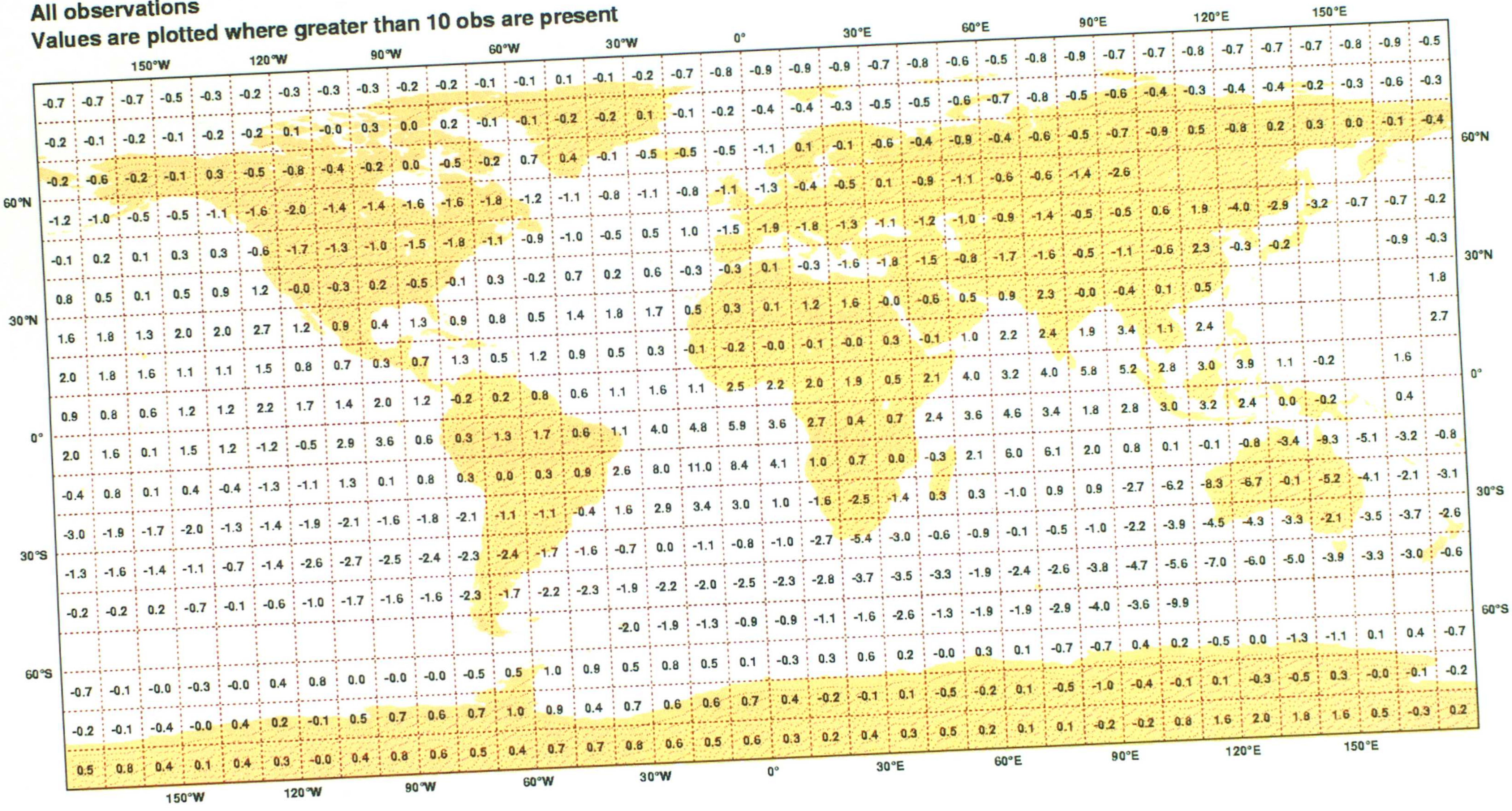

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 18. SATOB 401 - 700 hPa mean O-B speed differences (ms-1). AUGUST 2005
All observations
Values are plotted where greater than 10 obs are present



-0.7	-0.7	-0.7	-0.5	-0.3	-0.2	-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1	0.1	-0.1	-0.2	-0.7	-0.8	-0.9	-0.9	-0.9	-0.7	-0.8	-0.6	-0.5	-0.8	-0.9	-0.7	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.9	-0.5
-0.2	-0.1	-0.2	-0.1	-0.2	-0.2	0.1	-0.0	0.3	0.0	0.2	-0.1	-0.1	-0.2	-0.2	0.1	-0.1	-0.2	-0.4	-0.4	-0.3	-0.5	-0.5	-0.6	-0.7	-0.8	-0.5	-0.6	-0.4	-0.3	-0.4	-0.4	-0.2	-0.3	-0.6	-0.3
-0.2	-0.6	-0.2	-0.1	0.3	-0.5	-0.8	-0.4	-0.2	0.0	-0.5	-0.2	0.7	0.4	-0.1	-0.5	-0.5	-0.5	-1.1	0.1	-0.1	-0.6	-0.4	-0.9	-0.4	-0.6	-0.5	-0.7	-0.9	0.5	-0.8	0.2	0.3	0.0	-0.1	-0.4
-1.2	-1.0	-0.5	-0.5	-1.1	-1.6	-2.0	-1.4	-1.4	-1.6	-1.6	-1.8	-1.2	-1.1	-0.8	-1.1	-0.8	-1.1	-1.3	-0.4	-0.5	0.1	-0.9	-1.1	-0.6	-0.6	-1.4	-2.6								
-0.1	0.2	0.1	0.3	0.3	-0.6	-1.7	-1.3	-1.0	-1.5	-1.8	-1.1	-0.9	-1.0	-0.5	0.5	1.0	-1.5	-1.9	-1.8	-1.3	-1.1	-1.2	-1.0	-0.9	-1.4	-0.5	-0.5	0.6	1.9	-4.0	-2.9	-3.2	-0.7	-0.7	-0.2
0.8	0.5	0.1	0.5	0.9	1.2	-0.0	-0.3	0.2	-0.5	-0.1	0.3	-0.2	0.7	0.2	0.6	-0.3	-0.3	0.1	-0.3	-1.6	-1.8	-1.5	-0.8	-1.7	-1.6	-0.5	-1.1	-0.6	2.3	-0.3	-0.2			-0.9	-0.3
1.6	1.8	1.3	2.0	2.0	2.7	1.2	0.9	0.4	1.3	0.9	0.8	0.5	1.4	1.8	1.7	0.5	0.3	0.1	1.2	1.6	-0.0	-0.6	0.5	0.9	2.3	-0.0	-0.4	0.1	0.5						1.8
2.0	1.8	1.6	1.1	1.1	1.5	0.8	0.7	0.3	0.7	1.3	0.5	1.2	0.9	0.5	0.3	-0.1	-0.2	-0.0	-0.1	-0.0	0.3	-0.1	1.0	2.2	2.4	1.9	3.4	1.1	2.4						2.7
0.9	0.8	0.6	1.2	1.2	2.2	1.7	1.4	2.0	1.2	-0.2	0.2	0.8	0.6	1.1	1.6	1.1	2.5	2.2	2.0	1.9	0.5	2.1	4.0	3.2	4.0	5.8	5.2	2.8	3.0	3.9	1.1	-0.2		1.6	
2.0	1.6	0.1	1.5	1.2	-1.2	-0.5	2.9	3.6	0.6	0.3	1.3	1.7	0.6	1.1	4.0	4.8	5.9	3.6	2.7	0.4	0.7	2.4	3.6	4.6	3.4	1.8	2.8	3.0	3.2	2.4	0.0	-0.2		0.4	
-0.4	0.8	0.1	0.4	-0.4	-1.3	-1.1	1.3	0.1	0.8	0.3	0.0	0.3	0.9	2.6	8.0	11.0	8.4	4.1	1.0	0.7	0.0	-0.3	2.1	6.0	6.1	2.0	0.8	0.1	-0.1	-0.8	-3.4	-9.3	-5.1	-3.2	-0.8
-3.0	-1.9	-1.7	-2.0	-1.3	-1.4	-1.9	-2.1	-1.6	-1.8	-2.1	-1.1	-1.1	-0.4	1.6	2.9	3.4	3.0	1.0	-1.6	-2.5	-1.4	0.3	0.3	-1.0	0.9	0.9	-2.7	-6.2	-8.3	-6.7	-0.1	-5.2	-4.1	-2.1	-3.1
-1.3	-1.6	-1.4	-1.1	-0.7	-1.4	-2.6	-2.7	-2.5	-2.4	-2.3	-2.4	-1.7	-1.6	-0.7	0.0	-1.1	-0.8	-1.0	-2.7	-5.4	-3.0	-0.6	-0.9	-0.1	-0.5	-1.0	-2.2	-3.9	-4.5	-4.3	-3.3	-2.1	-3.5	-3.7	-2.6
-0.2	-0.2	0.2	-0.7	-0.1	-0.6	-1.0	-1.7	-1.6	-1.6	-2.3	-1.7	-2.2	-2.3	-1.9	-2.2	-2.0	-2.5	-2.3	-2.8	-3.7	-3.5	-3.3	-1.9	-2.4	-2.6	-3.8	-4.7	-5.6	-7.0	-6.0	-5.0	-3.9	-3.3	-3.0	-0.6
														-2.0	-1.9	-1.3	-0.9	-0.9	-1.1	-1.6	-2.6	-1.3	-1.9	-1.9	-2.9	-4.0	-3.6	-9.9							
-0.7	-0.1	-0.0	-0.3	-0.0	0.4	0.8	0.0	-0.0	-0.0	-0.5	0.5	1.0	0.9	0.5	0.8	0.5	0.1	-0.3	0.3	0.6	0.2	-0.0	0.3	0.1	-0.7	-0.7	0.4	0.2	-0.5	0.0	-1.3	-1.1	0.1	0.4	-0.7
-0.2	-0.1	-0.4	-0.0	0.4	0.2	-0.1	0.5	0.7	0.6	0.7	1.0	0.9	0.4	0.7	0.6	0.6	0.7	0.4	-0.2	-0.1	0.1	-0.5	-0.2	0.1	-0.5	-1.0	-0.4	-0.1	0.1	-0.3	-0.5	0.3	-0.0	-0.1	-0.2
0.5	0.8	0.4	0.1	0.4	0.3	-0.0	0.4	0.8	0.6	0.5	0.4	0.7	0.7	0.8	0.6	0.5	0.6	0.3	0.2	0.4	0.3	0.5	0.2	0.1	0.1	-0.2	-0.2	0.8	1.6	2.0	1.8	1.6	0.5	-0.3	0.2

Figure 19. SATOB 401 - 700 hPa mean RMS O-B vector differences (ms-1). AUGUST 2005
All observations
Values are plotted where greater than 10 obs are present

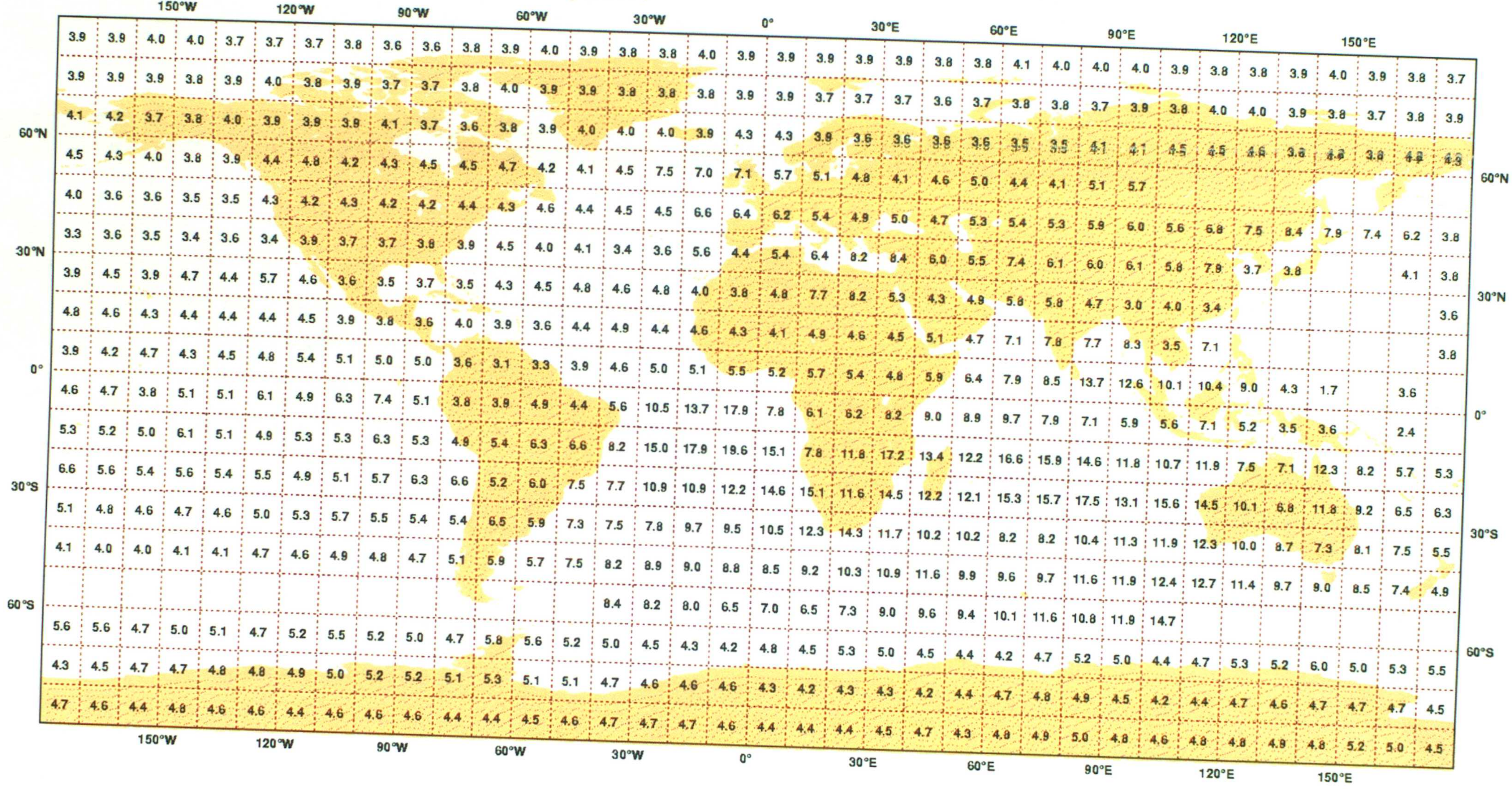
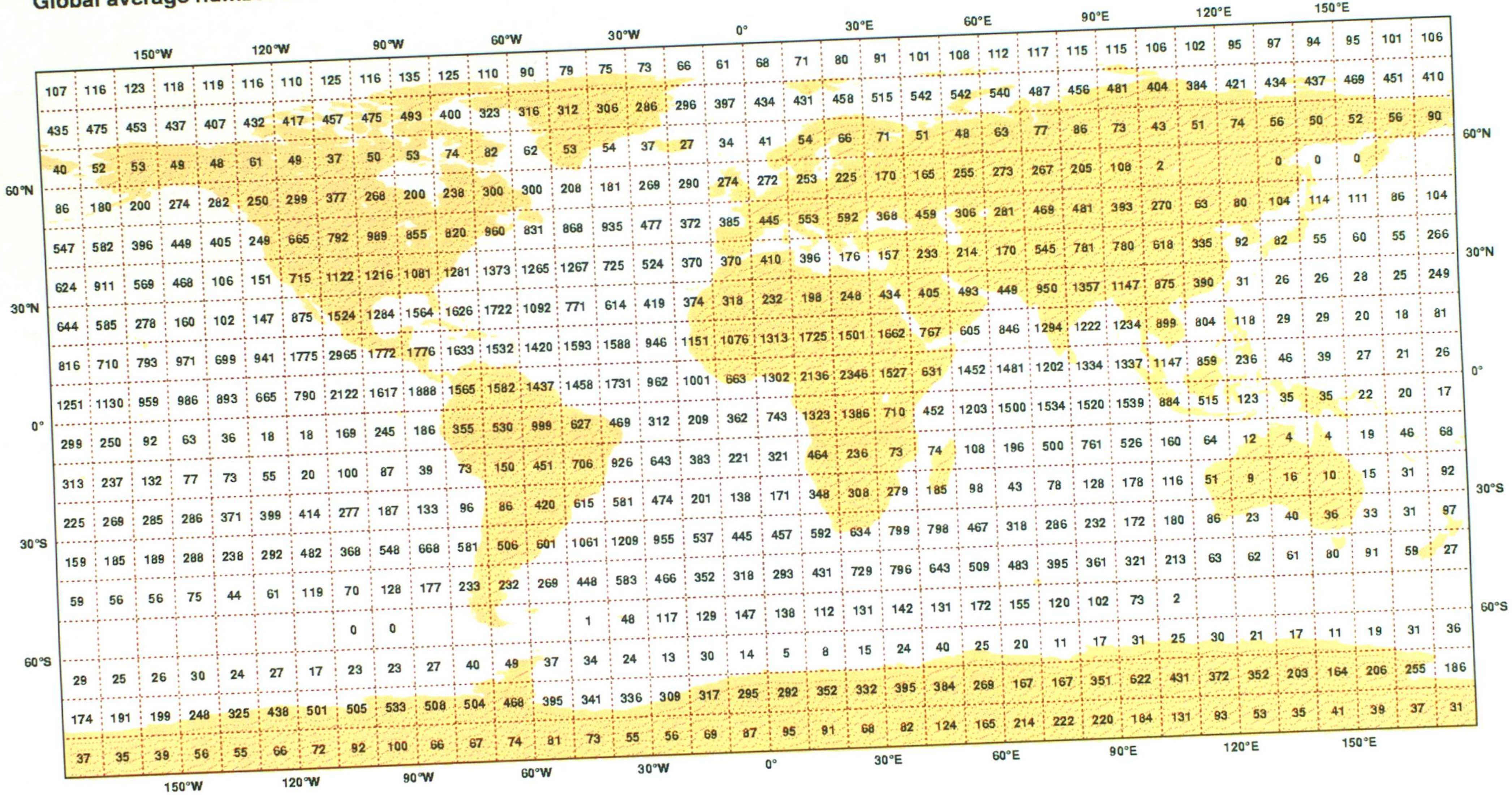

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
3.9 3.9 4.0 4.0 3.7 3.7 3.7 3.8 3.6 3.6 3.8 3.9 4.0 3.9 3.8 3.8 4.0 3.9 3.9 3.9 3.9 3.9 3.8 3.8 4.1 4.0 4.0 4.0 3.9 3.8 3.8 3.9 4.0 3.9 3.8 3.7
3.9 3.9 3.9 3.8 3.9 4.0 3.8 3.9 3.7 3.7 3.8 4.0 3.9 3.9 3.8 3.8 3.8 3.9 3.9 3.7 3.7 3.7 3.6 3.7 3.8 3.8 3.7 3.9 3.8 4.0 4.0 3.9 3.8 3.7 3.8 3.9
4.1 4.2 3.7 3.8 4.0 3.9 3.9 3.9 4.1 3.7 3.6 3.8 3.9 4.0 4.0 4.0 3.9 4.3 4.3 3.8 3.6 3.6 3.6 3.6 3.5 3.5 4.1 4.1 4.5 4.5 4.6 3.8 4.2 3.8 4.2 4.3
4.5 4.3 4.0 3.8 3.9 4.4 4.8 4.2 4.3 4.5 4.5 4.7 4.2 4.1 4.5 7.5 7.0 7.1 5.7 5.1 4.8 4.1 4.6 5.0 4.4 4.1 5.1 5.7
4.0 3.6 3.6 3.5 3.5 4.3 4.2 4.3 4.2 4.2 4.4 4.3 4.6 4.4 4.5 4.5 6.6 6.4 6.2 5.4 4.9 5.0 4.7 5.3 5.4 5.3 5.9 6.0 5.6 6.8 7.5 8.4 7.9 7.4 6.2 3.8
3.3 3.6 3.5 3.4 3.6 3.4 3.9 3.7 3.7 3.8 3.9 4.5 4.0 4.1 3.4 3.6 5.6 4.4 5.4 6.4 8.2 8.4 6.0 5.5 7.4 6.1 6.0 6.1 5.8 7.8 3.7 3.8 4.1 3.8
3.9 4.5 3.9 4.7 4.4 5.7 4.6 3.6 3.5 3.7 3.5 4.3 4.5 4.8 4.6 4.8 4.0 3.8 4.8 7.7 8.2 5.3 4.3 4.9 5.8 5.8 4.7 3.0 4.0 3.4 3.6
4.8 4.6 4.3 4.4 4.4 4.4 4.5 3.9 3.8 3.6 4.0 3.9 3.6 4.4 4.9 4.4 4.6 4.3 4.1 4.9 4.6 4.5 5.1 4.7 7.1 7.8 7.7 8.3 3.5 7.1 3.8
3.9 4.2 4.7 4.3 4.5 4.8 5.4 5.1 5.0 5.0 3.6 3.1 3.3 3.9 4.6 5.0 5.1 5.5 5.2 5.7 5.4 4.8 5.9 6.4 7.9 8.5 13.7 12.6 10.1 10.4 9.0 4.3 1.7 3.6
4.6 4.7 3.8 5.1 5.1 6.1 4.9 6.3 7.4 5.1 3.8 3.9 4.9 4.4 5.6 10.5 13.7 17.9 7.8 6.1 6.2 8.2 9.0 8.9 9.7 7.9 7.1 5.9 5.6 7.1 5.2 3.5 3.6 2.4
5.3 5.2 5.0 6.1 5.1 4.9 5.3 5.3 6.3 5.3 4.9 5.4 6.3 6.6 8.2 15.0 17.9 19.6 15.1 7.8 11.8 17.2 13.4 12.2 16.6 15.9 14.6 11.8 10.7 11.9 7.5 7.1 12.3 8.2 5.7 5.3
6.6 5.6 5.4 5.6 5.4 5.5 4.9 5.1 5.7 6.3 6.6 5.2 6.0 7.5 7.7 10.9 10.9 12.2 14.6 15.1 11.6 14.5 12.2 12.1 15.3 15.7 17.5 13.1 15.6 14.5 10.1 6.8 11.8 9.2 6.5 6.3
5.1 4.8 4.6 4.7 4.6 5.0 5.3 5.7 5.5 5.4 5.4 6.5 5.9 7.3 7.5 7.8 9.7 9.5 10.5 12.3 14.3 11.7 10.2 10.2 8.2 8.2 10.4 11.3 11.9 12.3 10.0 8.7 7.3 8.1 7.5 5.5
4.1 4.0 4.0 4.1 4.1 4.7 4.6 4.9 4.8 4.7 5.1 5.9 5.7 7.5 8.2 8.9 9.0 8.8 8.5 9.2 10.3 10.9 11.6 9.9 9.6 9.7 11.6 11.9 12.4 12.7 11.4 9.7 9.0 8.5 7.4 4.9
8.4 8.2 8.0 6.5 7.0 6.5 7.3 9.0 9.6 9.4 10.1 11.6 10.8 11.9 14.7
5.6 5.6 4.7 5.0 5.1 4.7 5.2 5.5 5.2 5.0 4.7 5.8 5.6 5.2 5.0 4.5 4.3 4.2 4.8 4.5 5.3 5.0 4.5 4.4 4.2 4.7 5.2 5.0 4.4 4.7 5.3 5.2 6.0 5.0 5.3 5.5
4.3 4.5 4.7 4.7 4.8 4.8 4.9 5.0 5.2 5.2 5.1 5.3 5.1 5.1 4.7 4.6 4.6 4.6 4.3 4.2 4.3 4.3 4.2 4.4 4.7 4.8 4.9 4.5 4.2 4.4 4.7 4.6 4.7 4.7 4.7 4.5
4.7 4.6 4.4 4.8 4.6 4.6 4.4 4.6 4.6 4.6 4.4 4.4 4.5 4.6 4.7 4.7 4.7 4.6 4.4 4.4 4.4 4.5 4.7 4.3 4.8 4.9 5.0 4.8 4.6 4.8 4.8 4.9 4.8 5.2 5.0 4.5

Figure 20. SATOB 101 - 400 hPa mean daily count. AUGUST 2005
Global average number of observations in 24 hours = 240474



107	116	123	118	119	116	110	125	116	135	125	110	90	79	75	73	66	61	68	71	80	91	101	108	112	117	115	115	106	102	95	97	94	95	101	106
435	475	453	437	407	432	417	457	475	493	400	323	316	312	306	286	296	397	434	431	458	515	542	542	540	487	456	481	404	384	421	434	437	469	451	410
40	52	53	49	48	61	49	37	50	53	74	82	62	53	54	37	27	34	41	54	66	71	51	48	63	77	86	73	43	51	74	56	50	52	56	90
86	180	200	274	282	250	299	377	268	200	238	300	300	208	181	269	290	274	272	253	225	170	165	255	273	267	205	108	2			0	0	0		
547	582	396	449	405	249	665	792	989	855	820	960	831	868	935	477	372	385	445	553	592	368	459	306	281	468	481	393	270	63	80	104	114	111	86	104
624	911	569	468	106	151	715	1122	1216	1081	1281	1373	1265	1267	725	524	370	370	410	396	176	157	233	214	170	545	781	780	618	335	92	82	55	60	55	266
644	585	278	160	102	147	875	1524	1284	1564	1626	1722	1092	771	614	419	374	318	232	198	248	434	405	493	449	950	1357	1147	875	390	31	26	26	28	25	249
816	710	793	971	699	941	1775	2965	1772	1776	1633	1532	1420	1593	1588	946	1151	1076	1313	1725	1501	1662	767	605	846	1294	1222	1234	899	804	118	29	29	20	18	81
1251	1130	959	986	893	665	790	2122	1617	1888	1565	1582	1437	1458	1731	962	1001	663	1302	2136	2346	1527	631	1452	1481	1202	1334	1337	1147	859	236	46	39	27	21	26
299	250	92	63	36	18	18	169	245	186	355	530	999	627	469	312	209	362	743	1323	1386	710	452	1203	1500	1534	1520	1539	884	515	123	35	35	22	20	17
313	237	132	77	73	55	20	100	87	39	73	150	451	706	926	643	383	221	321	464	236	73	74	108	196	500	761	526	160	64	12	4	4	19	46	68
225	269	285	286	371	399	414	277	187	133	96	86	420	615	581	474	201	138	171	348	308	279	185	98	43	78	128	178	116	51	9	16	10	15	31	92
159	185	189	288	238	292	482	368	548	668	581	506	601	1061	1209	955	537	445	457	592	634	799	798	467	318	286	232	172	180	86	23	40	36	33	31	97
59	56	56	75	44	61	119	70	128	177	233	232	269	448	583	466	352	318	293	431	729	796	643	509	483	395	361	321	213	63	62	61	80	91	59	27
							0	0					1	48	117	129	147	138	112	131	142	131	172	155	120	102	73	2							
29	25	26	30	24	27	17	23	23	27	40	49	37	34	24	13	30	14	5	8	15	24	40	25	20	11	17	31	25	30	21	17	11	19	31	36
174	191	199	248	325	438	501	505	533	508	504	468	395	341	336	309	317	295	292	352	332	395	384	269	167	167	351	622	431	372	352	203	164	206	255	186
37	35	39	56	55	66	72	92	100	66	67	74	81	73	55	56	69	87	95	91	68	82	124	165	214	222	220	184	131	93	53	35	41	39	37	31

Figure 21. SATOB 101 - 400 hPa vector mean wind. AUGUST 2005
All observations
Arrows are plotted where greater than 10 obs are present

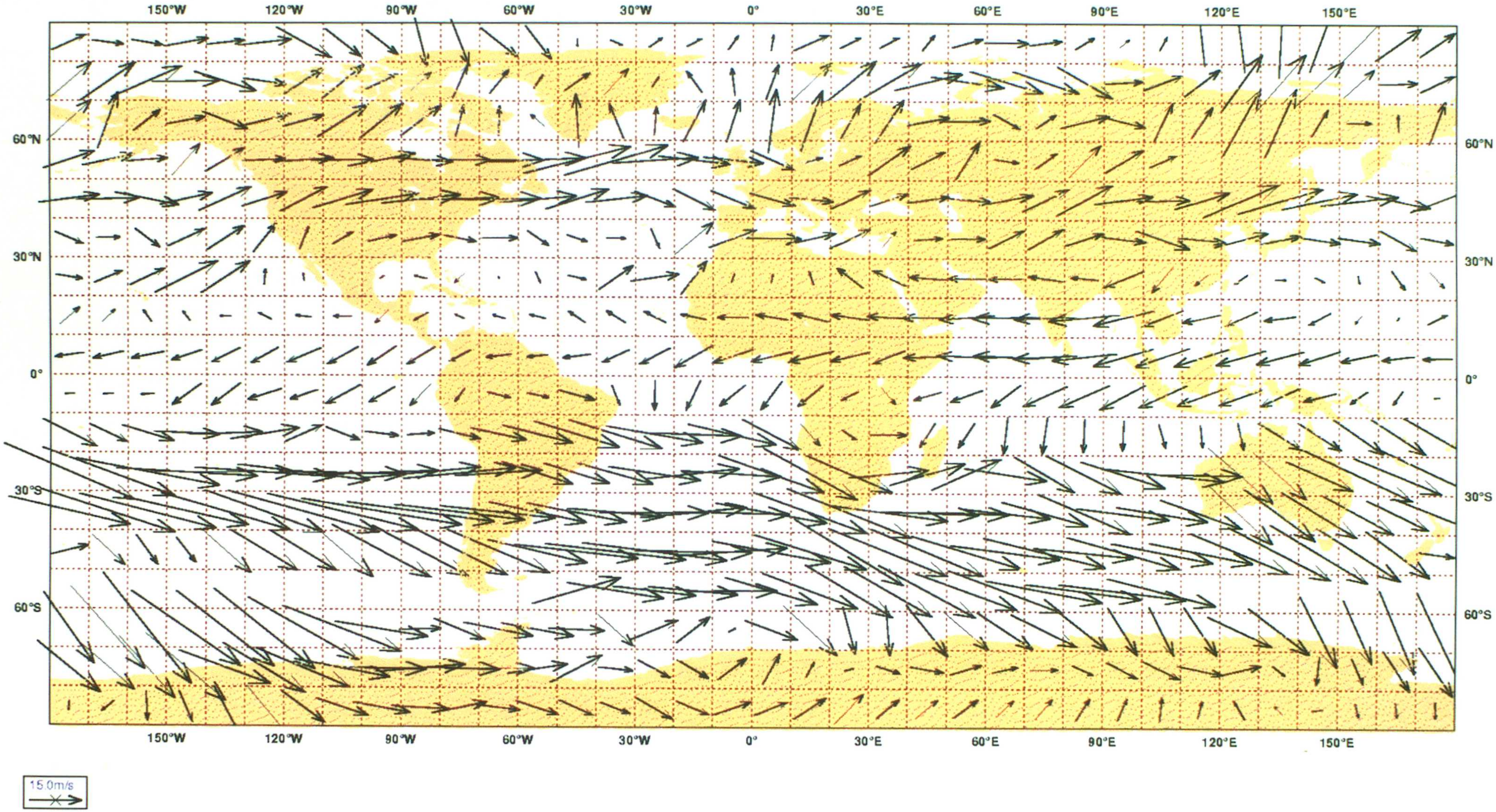

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 22. SATOB 101 - 400 hPa mean vector wind differences. AUGUST 2005
All observations
Arrows are plotted where greater than 10 obs are present

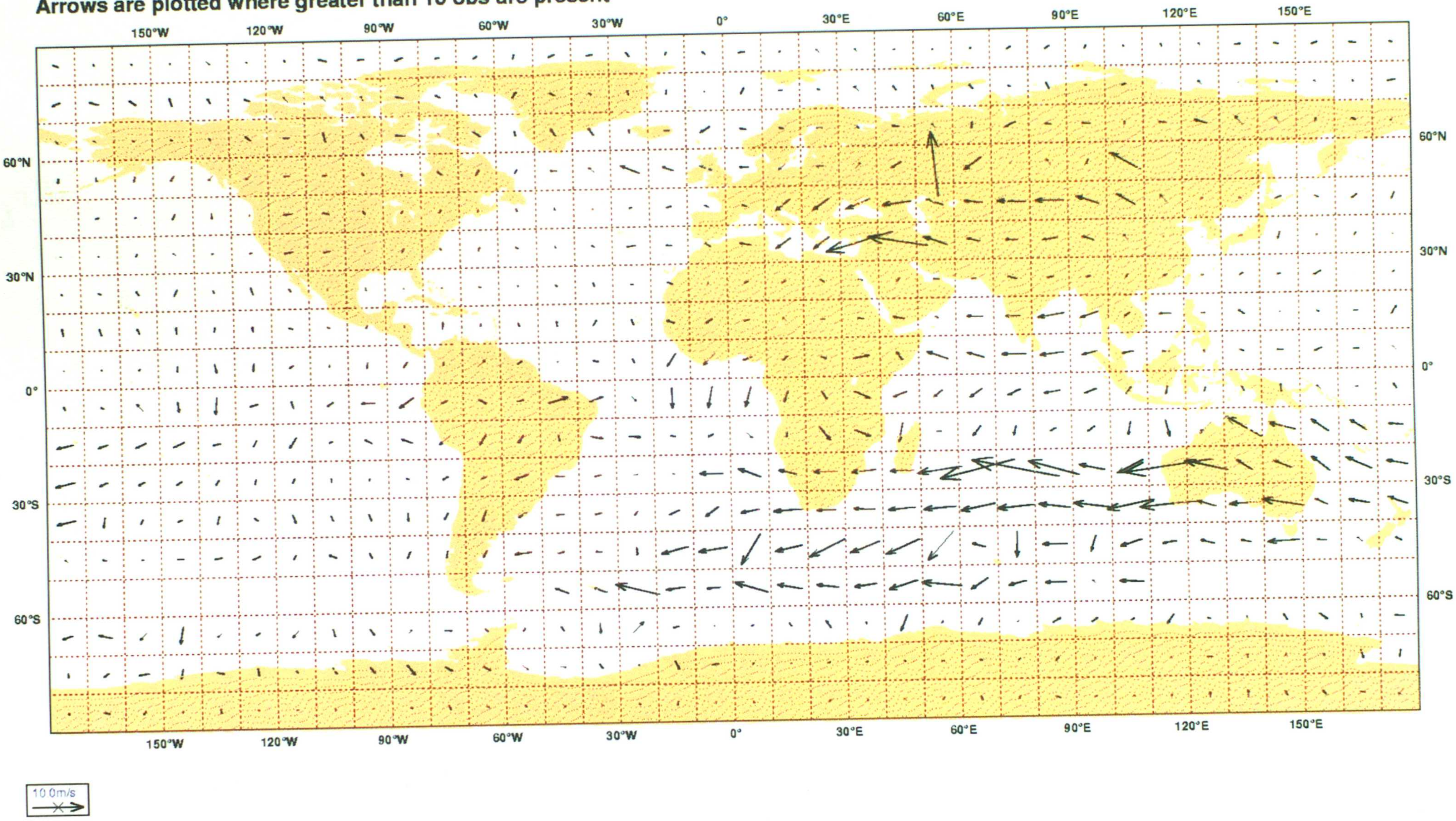
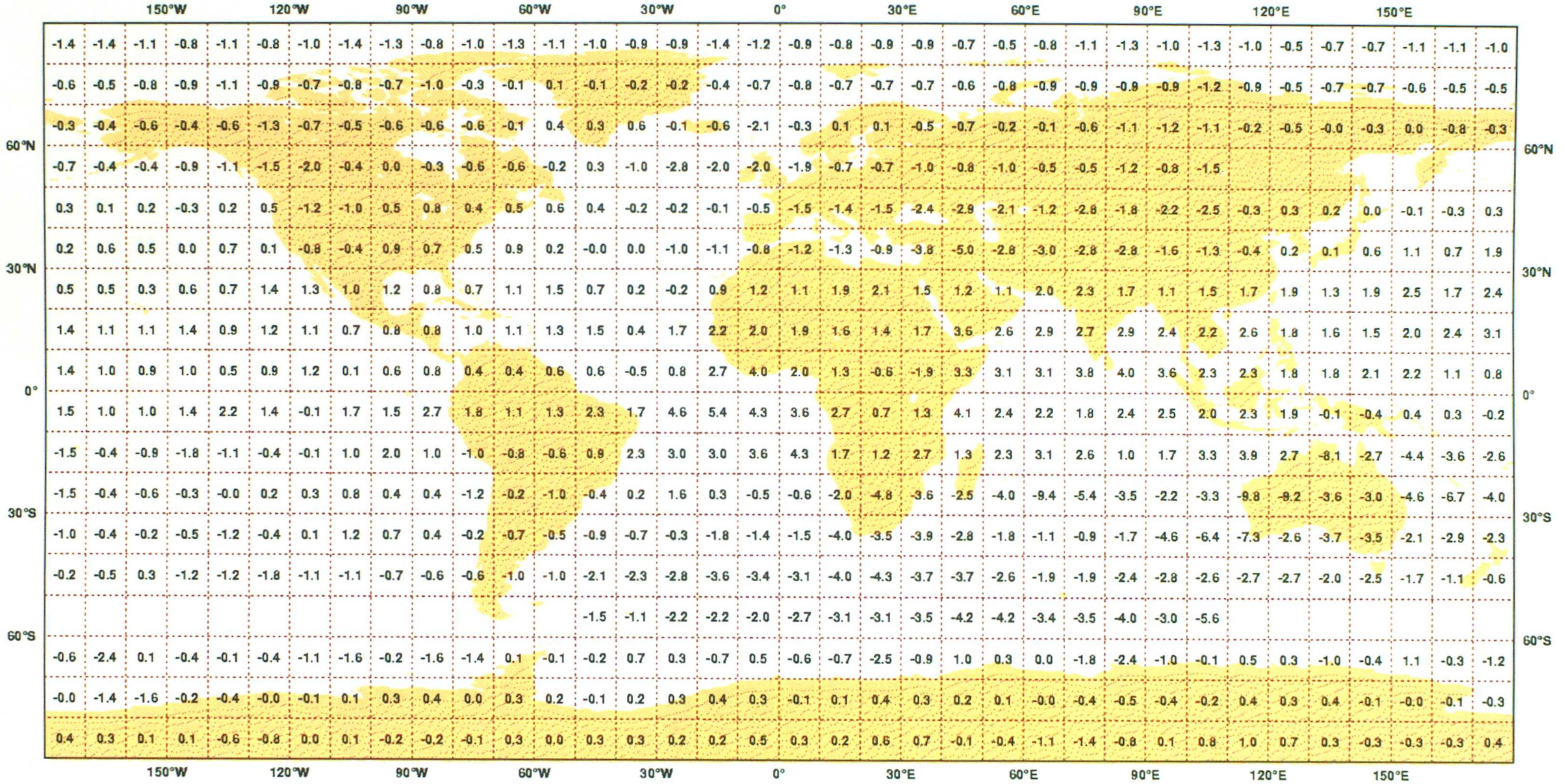
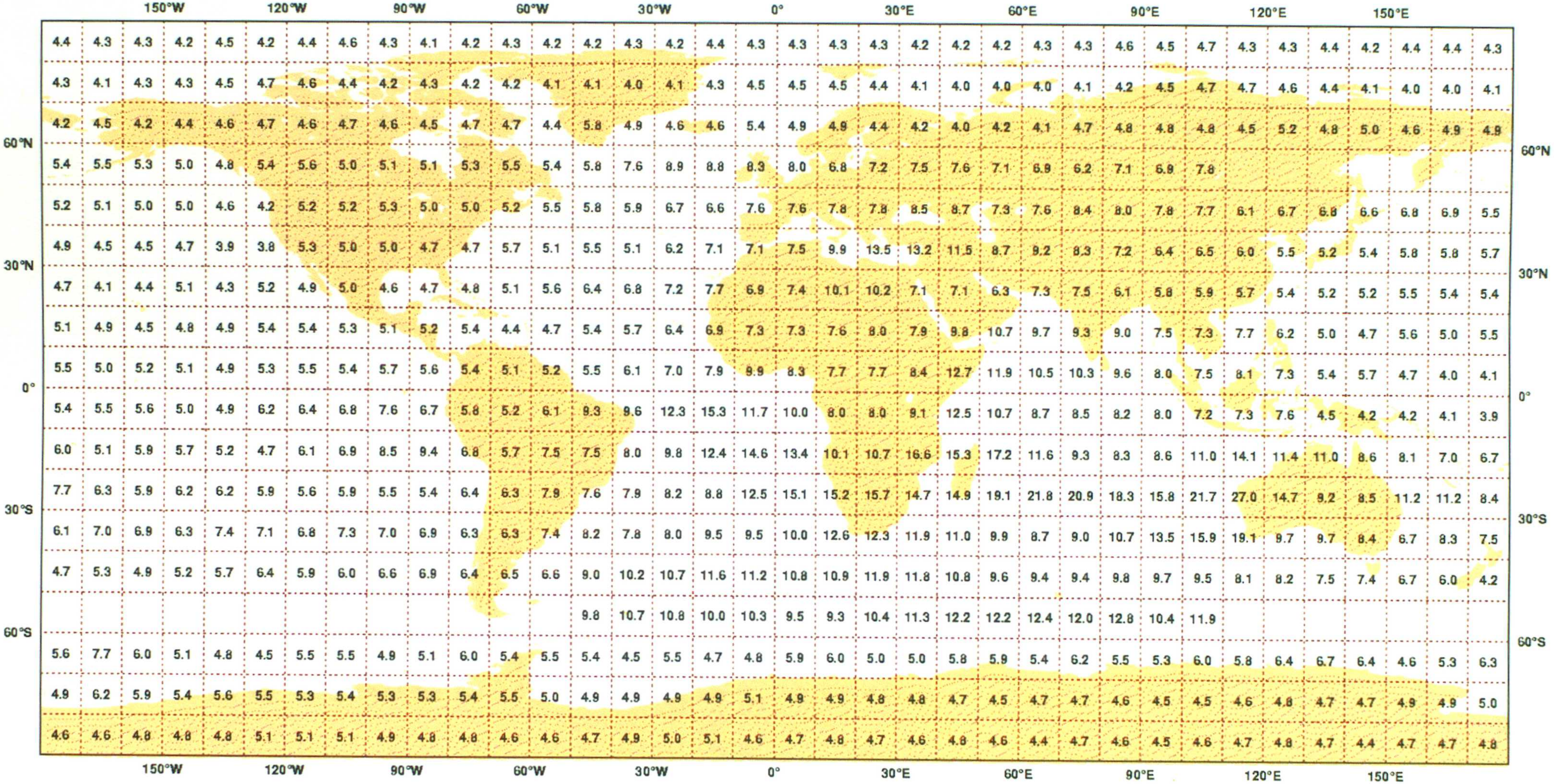

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 23. SATOB 101 - 400 hPa mean O-B speed differences (ms-1). AUGUST 2005
All observations
Values are plotted where greater than 10 obs are present



-1.4	-1.4	-1.1	-0.8	-1.1	-0.8	-1.0	-1.4	-1.3	-0.8	-1.0	-1.3	-1.1	-1.0	-0.9	-0.9	-1.4	-1.2	-0.9	-0.8	-0.9	-0.9	-0.7	-0.5	-0.8	-1.1	-1.3	-1.0	-1.3	-1.0	-0.5	-0.7	-0.7	-1.1	-1.1	-1.0
-0.6	-0.5	-0.8	-0.9	-1.1	-0.9	-0.7	-0.8	-0.7	-1.0	-0.3	-0.1	0.1	-0.1	-0.2	-0.2	-0.4	-0.7	-0.8	-0.7	-0.7	-0.7	-0.6	-0.8	-0.9	-0.9	-0.9	-0.9	-1.2	-0.9	-0.5	-0.7	-0.7	-0.6	-0.5	-0.5
-0.3	-0.4	-0.6	-0.4	-0.6	-1.3	-0.7	-0.5	-0.6	-0.6	-0.6	-0.1	0.4	0.3	0.6	-0.1	-0.6	-2.1	-0.3	0.1	0.1	-0.5	-0.7	-0.2	-0.1	-0.6	-1.1	-1.2	-1.1	-0.2	-0.5	-0.0	-0.3	0.0	-0.8	-0.3
-0.7	-0.4	-0.4	-0.9	-1.1	-1.5	-2.0	-0.4	0.0	-0.3	-0.6	-0.6	-0.2	0.3	-1.0	-2.8	-2.0	-2.0	-1.9	-0.7	-0.7	-1.0	-0.8	-1.0	-0.5	-0.5	-1.2	-0.8	-1.5							
0.3	0.1	0.2	-0.3	0.2	0.5	-1.2	-1.0	0.5	0.8	0.4	0.5	0.6	0.4	-0.2	-0.2	-0.1	-0.5	-1.5	-1.4	-1.5	-2.4	-2.9	-2.1	-1.2	-2.8	-1.8	-2.2	-2.5	-0.3	0.3	0.2	0.0	-0.1	-0.3	0.3
0.2	0.6	0.5	0.0	0.7	0.1	-0.8	-0.4	0.9	0.7	0.5	0.9	0.2	-0.0	0.0	-1.0	-1.1	-0.8	-1.2	-1.3	-0.9	-3.8	-5.0	-2.8	-3.0	-2.8	-2.8	-1.6	-1.3	-0.4	0.2	0.1	0.6	1.1	0.7	1.9
0.5	0.5	0.3	0.6	0.7	1.4	1.3	1.0	1.2	0.8	0.7	1.1	1.5	0.7	0.2	-0.2	0.9	1.2	1.1	1.9	2.1	1.5	1.2	1.1	2.0	2.3	1.7	1.1	1.5	1.7	1.9	1.3	1.9	2.5	1.7	2.4
1.4	1.1	1.1	1.4	0.9	1.2	1.1	0.7	0.8	0.8	1.0	1.1	1.3	1.5	0.4	1.7	2.2	2.0	1.9	1.6	1.4	1.7	3.6	2.6	2.9	2.7	2.9	2.4	2.2	2.6	1.8	1.6	1.5	2.0	2.4	3.1
1.4	1.0	0.9	1.0	0.5	0.9	1.2	0.1	0.6	0.8	0.4	0.4	0.6	0.6	-0.5	0.8	2.7	4.0	2.0	1.3	-0.6	-1.9	3.3	3.1	3.1	3.8	4.0	3.6	2.3	2.3	1.8	1.8	2.1	2.2	1.1	0.8
1.5	1.0	1.0	1.4	2.2	1.4	-0.1	1.7	1.5	2.7	1.8	1.1	1.3	2.3	1.7	4.6	5.4	4.3	3.6	2.7	0.7	1.3	4.1	2.4	2.2	1.8	2.4	2.5	2.0	2.3	1.9	-0.1	-0.4	0.4	0.3	-0.2
-1.5	-0.4	-0.9	-1.8	-1.1	-0.4	-0.1	1.0	2.0	1.0	-1.0	-0.8	-0.6	0.9	2.3	3.0	3.0	3.6	4.3	1.7	1.2	2.7	1.3	2.3	3.1	2.6	1.0	1.7	3.3	3.9	2.7	-8.1	-2.7	-4.4	-3.6	-2.6
-1.5	-0.4	-0.6	-0.3	-0.0	0.2	0.3	0.8	0.4	0.4	-1.2	-0.2	-1.0	-0.4	0.2	1.6	0.3	-0.5	-0.6	-2.0	-4.8	-3.6	-2.5	-4.0	-9.4	-5.4	-3.5	-2.2	-3.3	-9.8	-9.2	-3.6	-3.0	-4.6	-6.7	-4.0
-1.0	-0.4	-0.2	-0.5	-1.2	-0.4	0.1	1.2	0.7	0.4	-0.2	-0.7	-0.5	-0.9	-0.7	-0.3	-1.8	-1.4	-1.5	-4.0	-3.5	-3.9	-2.8	-1.8	-1.1	-0.9	-1.7	-4.6	-6.4	-7.3	-2.6	-3.7	-3.5	-2.1	-2.9	-2.3
-0.2	-0.5	0.3	-1.2	-1.2	-1.8	-1.1	-1.1	-0.7	-0.6	-0.6	-1.0	-1.0	-2.1	-2.3	-2.8	-3.6	-3.4	-3.1	-4.0	-4.3	-3.7	-3.7	-2.6	-1.9	-1.9	-2.4	-2.8	-2.6	-2.7	-2.7	-2.0	-2.5	-1.7	-1.1	-0.6
													-1.5	-1.1	-2.2	-2.2	-2.0	-2.7	-3.1	-3.1	-3.5	-4.2	-4.2	-3.4	-3.5	-4.0	-3.0	-5.6							
-0.6	-2.4	0.1	-0.4	-0.1	-0.4	-1.1	-1.6	-0.2	-1.6	-1.4	0.1	-0.1	-0.2	0.7	0.3	-0.7	0.5	-0.6	-0.7	-2.5	-0.9	1.0	0.3	0.0	-1.8	-2.4	-1.0	-0.1	0.5	0.3	-1.0	-0.4	1.1	-0.3	-1.2
-0.0	-1.4	-1.6	-0.2	-0.4	-0.0	-0.1	0.1	0.3	0.4	0.0	0.3	0.2	-0.1	0.2	0.3	0.4	0.3	-0.1	0.1	0.4	0.3	0.2	0.1	-0.0	-0.4	-0.5	-0.4	-0.2	0.4	0.3	0.4	-0.1	-0.0	-0.1	-0.3
0.4	0.3	0.1	0.1	-0.6	-0.8	0.0	0.1	-0.2	-0.2	-0.1	0.3	0.0	0.3	0.3	0.2	0.2	0.5	0.3	0.2	0.6	0.7	-0.1	-0.4	-1.1	-1.4	-0.8	0.1	0.8	1.0	0.7	0.3	-0.3	-0.3	-0.3	0.4

Figure 24. SATOB 101 - 400 hPa mean RMS O-B vector differences (ms-1). AUGUST 2005
All observations
Values are plotted where greater than 10 obs are present



4.4	4.3	4.3	4.2	4.5	4.2	4.4	4.6	4.3	4.1	4.2	4.3	4.2	4.2	4.3	4.2	4.4	4.3	4.3	4.3	4.3	4.2	4.2	4.2	4.3	4.3	4.6	4.5	4.7	4.3	4.3	4.4	4.2	4.4	4.4	4.3
4.3	4.1	4.3	4.3	4.5	4.7	4.6	4.4	4.2	4.3	4.2	4.2	4.1	4.1	4.0	4.1	4.3	4.5	4.5	4.5	4.4	4.1	4.0	4.0	4.0	4.1	4.2	4.5	4.7	4.7	4.6	4.4	4.1	4.0	4.0	4.1
4.2	4.5	4.2	4.4	4.6	4.7	4.6	4.7	4.6	4.5	4.7	4.7	4.4	5.8	4.9	4.6	4.6	5.4	4.9	4.9	4.4	4.2	4.0	4.2	4.1	4.7	4.8	4.8	4.8	4.5	5.2	4.8	5.0	4.6	4.9	4.9
5.4	5.5	5.3	5.0	4.8	5.4	5.6	5.0	5.1	5.1	5.3	5.5	5.4	5.8	7.6	8.9	8.8	8.3	8.0	6.8	7.2	7.5	7.6	7.1	6.9	6.2	7.1	6.9	7.8							
5.2	5.1	5.0	5.0	4.6	4.2	5.2	5.2	5.3	5.0	5.0	5.2	5.5	5.8	5.9	6.7	6.6	7.6	7.6	7.8	7.8	8.5	8.7	7.3	7.6	8.4	8.0	7.8	7.7	6.1	6.7	6.8	6.6	6.8	6.9	5.5
4.9	4.5	4.5	4.7	3.9	3.8	5.3	5.0	5.0	4.7	4.7	5.7	5.1	5.5	5.1	6.2	7.1	7.1	7.5	9.9	13.5	13.2	11.5	8.7	9.2	8.3	7.2	6.4	6.5	6.0	5.5	5.2	5.4	5.8	5.8	5.7
4.7	4.1	4.4	5.1	4.3	5.2	4.9	5.0	4.6	4.7	4.8	5.1	5.6	6.4	6.8	7.2	7.7	6.9	7.4	10.1	10.2	7.1	7.1	6.3	7.3	7.5	6.1	5.8	5.9	5.7	5.4	5.2	5.2	5.5	5.4	5.4
5.1	4.9	4.5	4.8	4.9	5.4	5.4	5.3	5.1	5.2	5.4	4.4	4.7	5.4	5.7	6.4	6.9	7.3	7.3	7.6	8.0	7.9	9.8	10.7	9.7	9.3	9.0	7.5	7.3	7.7	6.2	5.0	4.7	5.6	5.0	5.5
5.5	5.0	5.2	5.1	4.9	5.3	5.5	5.4	5.7	5.6	5.4	5.1	5.2	5.5	6.1	7.0	7.9	9.9	8.3	7.7	7.7	8.4	12.7	11.9	10.5	10.3	9.6	8.0	7.5	8.1	7.3	5.4	5.7	4.7	4.0	4.1
5.4	5.5	5.6	5.0	4.9	6.2	6.4	6.8	7.6	6.7	5.8	5.2	6.1	9.3	9.6	12.3	15.3	11.7	10.0	8.0	8.0	9.1	12.5	10.7	8.7	8.5	8.2	8.0	7.2	7.3	7.6	4.5	4.2	4.2	4.1	3.9
6.0	5.1	5.9	5.7	5.2	4.7	6.1	6.9	8.5	9.4	6.8	5.7	7.5	7.5	8.0	9.8	12.4	14.6	13.4	10.1	10.7	16.6	15.3	17.2	11.6	9.3	8.3	8.6	11.0	14.1	11.4	11.0	8.6	8.1	7.0	6.7
7.7	6.3	5.9	6.2	6.2	5.9	5.6	5.9	5.5	5.4	6.4	6.3	7.9	7.6	7.9	8.2	8.8	12.5	15.1	15.2	15.7	14.7	14.9	19.1	21.8	20.9	18.3	15.8	21.7	27.0	14.7	9.2	8.5	11.2	11.2	8.4
6.1	7.0	6.9	6.3	7.4	7.1	6.8	7.3	7.0	6.9	6.3	6.3	7.4	8.2	7.8	8.0	9.5	9.5	10.0	12.6	12.3	11.9	11.0	9.9	8.7	9.0	10.7	13.5	15.9	19.1	9.7	9.7	8.4	6.7	8.3	7.5
4.7	5.3	4.9	5.2	5.7	6.4	5.9	6.0	6.6	6.9	6.4	6.5	6.6	9.0	10.2	10.7	11.6	11.2	10.8	10.9	11.9	11.8	10.8	9.6	9.4	9.4	9.8	9.7	9.5	8.1	8.2	7.5	7.4	6.7	6.0	4.2
													9.8	10.7	10.8	10.0	10.3	9.5	9.3	10.4	11.3	12.2	12.2	12.4	12.0	12.8	10.4	11.9							
5.6	7.7	6.0	5.1	4.8	4.5	5.5	5.5	4.9	5.1	6.0	5.4	5.5	5.4	4.5	5.5	4.7	4.8	5.9	6.0	5.0	5.0	5.8	5.9	5.4	6.2	5.5	5.3	6.0	5.8	6.4	6.7	6.4	4.6	5.3	6.3
4.9	6.2	5.9	5.4	5.6	5.5	5.3	5.4	5.3	5.3	5.4	5.5	5.0	4.9	4.9	4.9	4.9	5.1	4.9	4.9	4.8	4.8	4.7	4.5	4.7	4.7	4.6	4.5	4.5	4.6	4.8	4.7	4.7	4.9	4.9	5.0
4.6	4.6	4.8	4.8	4.8	5.1	5.1	5.1	4.9	4.8	4.8	4.6	4.6	4.7	4.9	5.0	5.1	4.6	4.7	4.8	4.7	4.6	4.8	4.6	4.4	4.7	4.6	4.5	4.6	4.7	4.8	4.7	4.4	4.7	4.7	4.8

MONITORING OF SATELLITE TEMPERATURES

MONITORING CENTRE: EXETER

MONTH: Aug 2005

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from NOAA-15, NOAA-16 and NOAA-17.

Standard of comparison :Background field from UKMO global model.

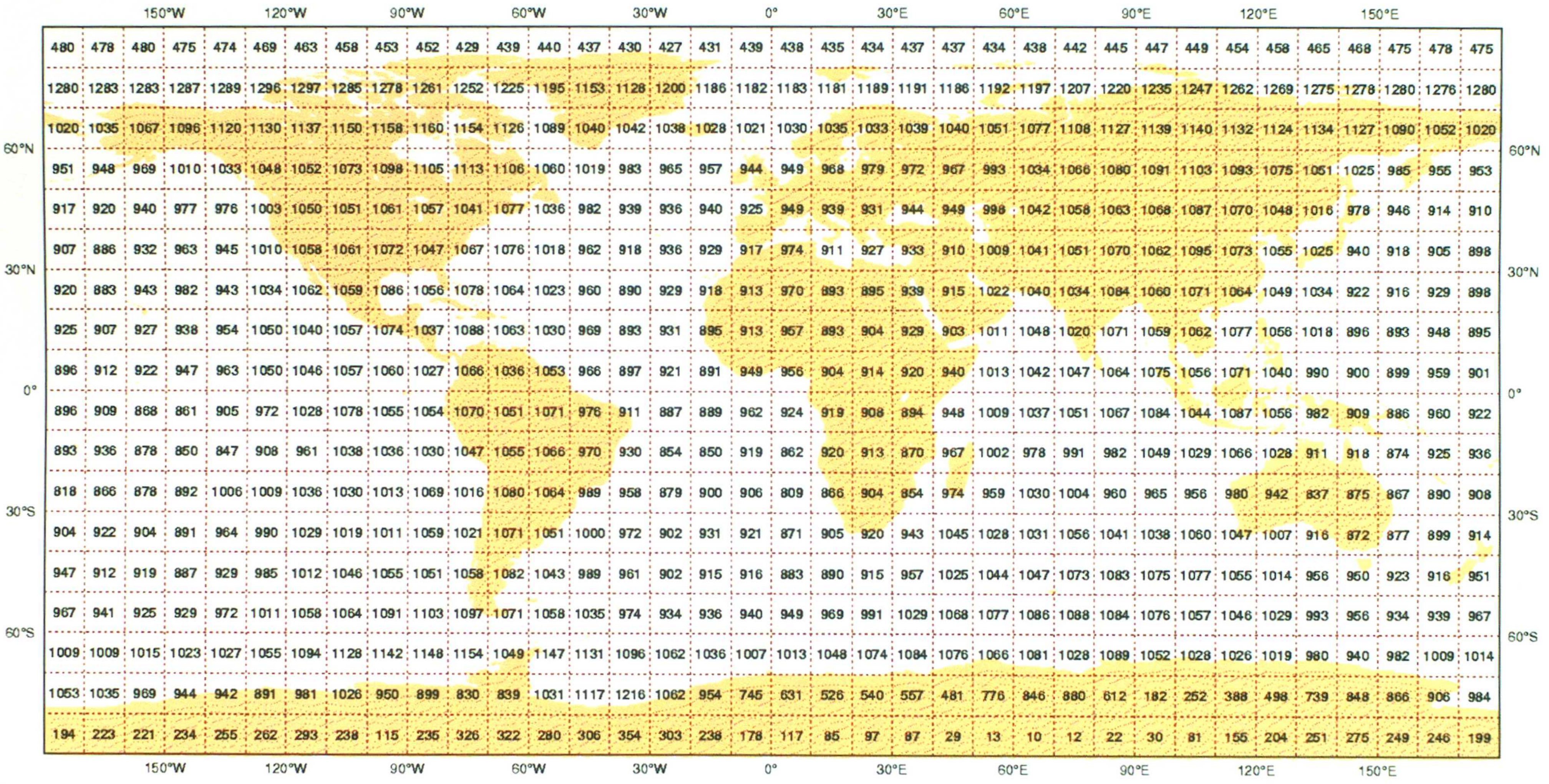
Selection Criteria :All soundings.

Data Extracted :Sounding channels (and approximate weighting function peaks, hPa)

- HIRS8 (Surface)
- HIRS15 (700)
- HIRS11 (500-700)
- HIRS4 (400)
- AMSUA5 (700)
- AMSUA7 (300)
- AMSUA9 (100)

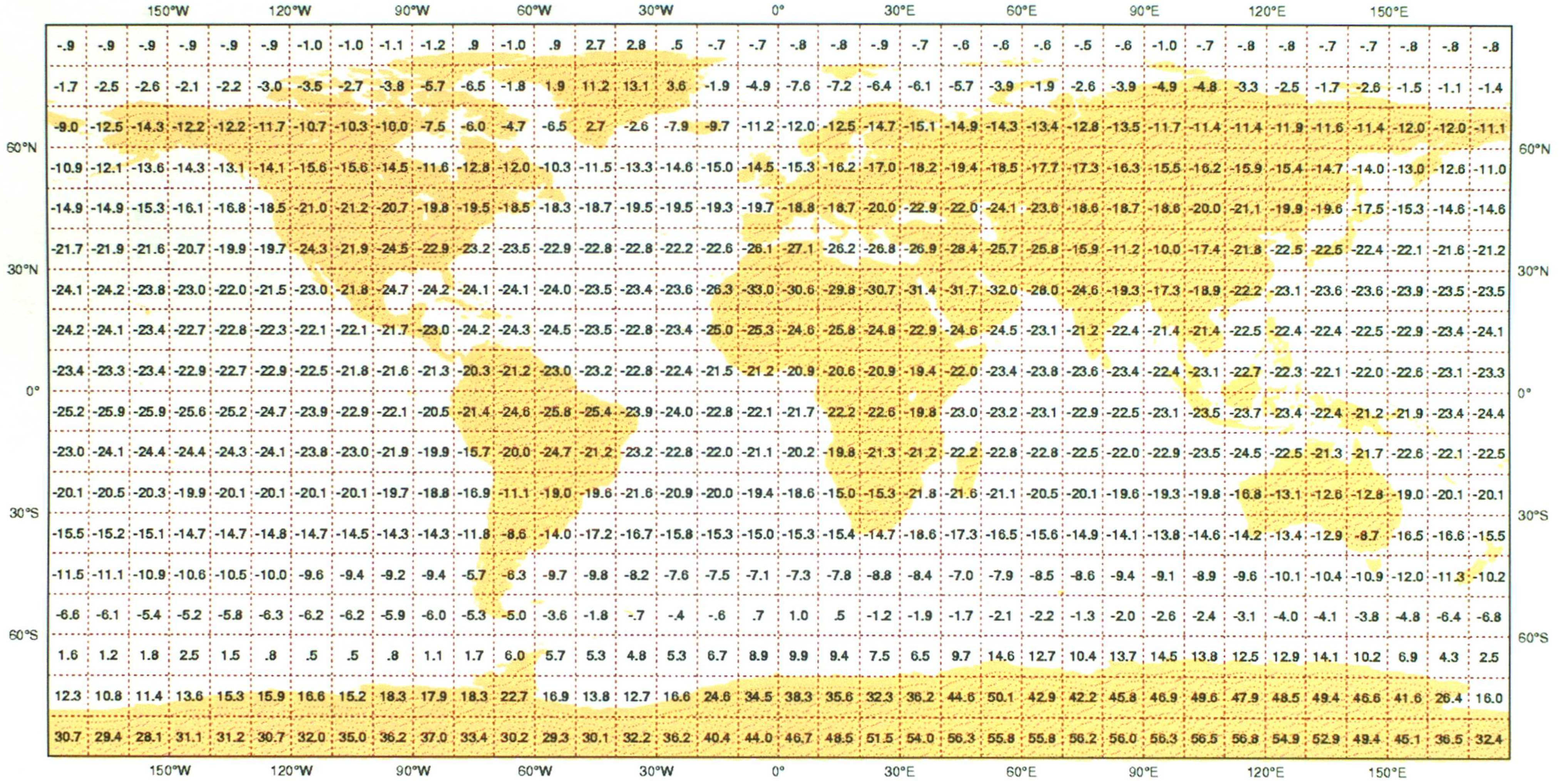
:Mean and standard deviation observation-minus-background brightness temperature differences

Figure 25. ATOVS mean daily count. AUGUST 2005
NOAA15, using all observations
Global average number of observations in 24 hours = 598054



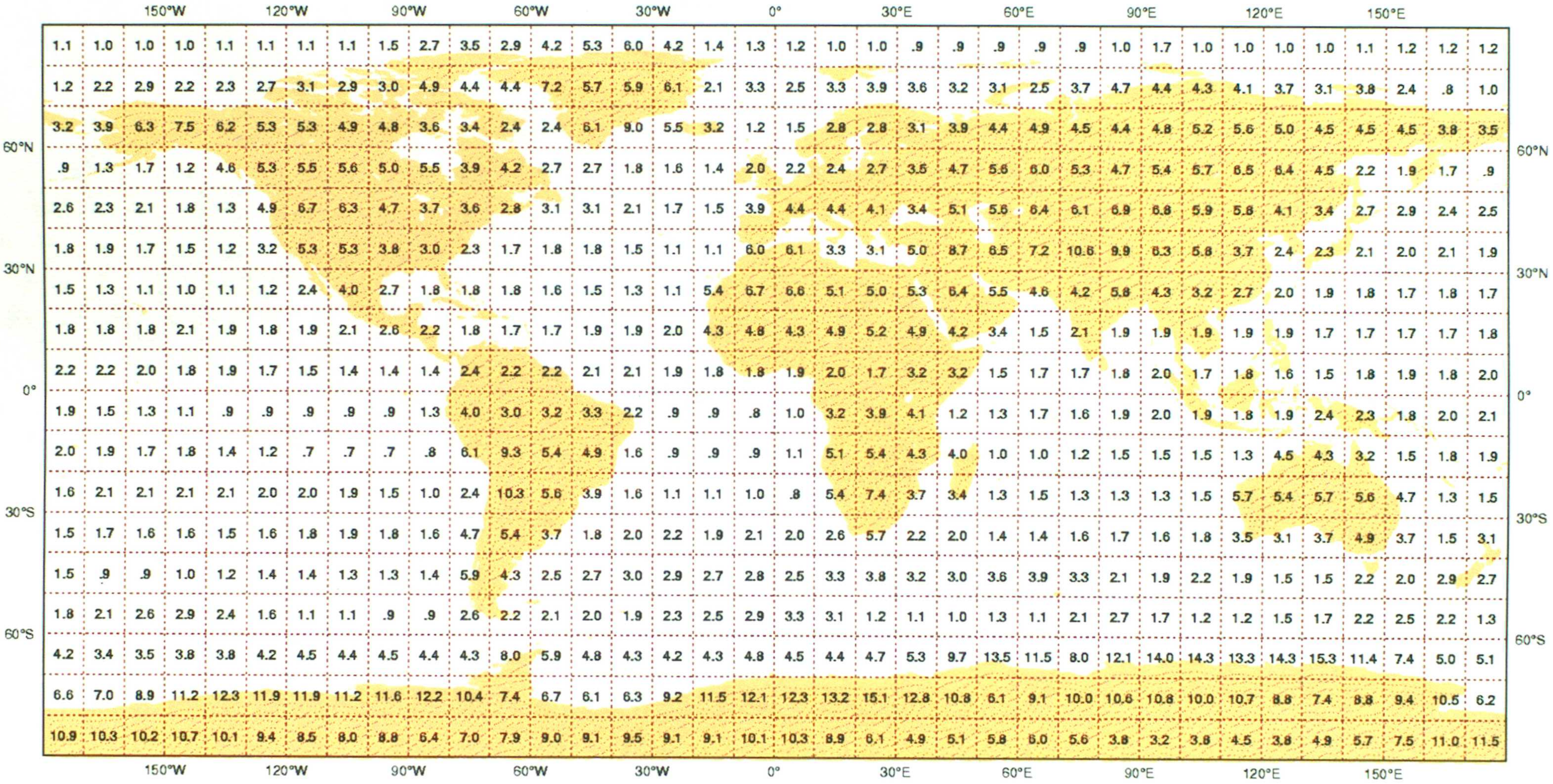
480	478	480	475	474	469	463	458	453	452	429	439	440	437	430	427	431	439	438	435	434	437	437	434	438	442	445	447	449	454	458	465	468	475	478	475
1280	1283	1283	1287	1289	1296	1297	1285	1278	1261	1252	1225	1195	1153	1128	1200	1186	1182	1183	1181	1189	1191	1186	1192	1197	1207	1220	1235	1247	1262	1269	1275	1278	1280	1276	1280
1020	1035	1067	1096	1120	1130	1137	1150	1158	1160	1154	1126	1089	1040	1042	1038	1028	1021	1030	1035	1033	1039	1040	1051	1077	1108	1127	1139	1140	1132	1124	1134	1127	1090	1052	1020
951	948	969	1010	1033	1048	1052	1073	1098	1105	1113	1106	1060	1019	983	965	957	944	949	968	979	972	967	993	1034	1066	1080	1091	1103	1093	1075	1051	1025	985	955	953
917	920	940	977	976	1003	1050	1051	1061	1057	1041	1077	1036	982	939	936	940	925	949	939	931	944	949	998	1042	1058	1063	1068	1087	1070	1048	1016	978	946	914	910
907	886	932	963	945	1010	1058	1061	1072	1047	1067	1076	1018	962	918	936	929	917	974	911	927	933	910	1009	1041	1051	1070	1062	1095	1073	1055	1025	940	918	905	898
920	883	943	982	943	1034	1062	1059	1086	1056	1078	1064	1023	960	890	929	918	913	970	893	895	939	915	1022	1040	1034	1084	1060	1071	1064	1049	1034	922	916	929	898
925	907	927	938	954	1050	1040	1057	1074	1037	1088	1063	1030	969	893	931	895	913	957	893	904	929	903	1011	1048	1020	1071	1059	1062	1077	1056	1018	896	893	948	895
896	912	922	947	963	1050	1046	1057	1060	1027	1066	1036	1053	966	897	921	891	949	956	904	914	920	940	1013	1042	1047	1064	1075	1056	1071	1040	990	900	899	959	901
896	909	868	861	905	972	1028	1078	1055	1054	1070	1051	1071	976	911	887	889	962	924	919	908	894	948	1009	1037	1051	1067	1084	1044	1087	1056	982	909	886	960	922
893	936	878	850	847	908	961	1038	1036	1030	1047	1055	1066	970	930	854	850	919	862	920	913	870	967	1002	978	991	982	1049	1029	1066	1028	911	918	874	925	936
818	866	878	892	1006	1009	1036	1030	1013	1069	1016	1080	1064	989	958	879	900	906	809	866	904	854	974	959	1030	1004	960	965	956	980	942	837	875	867	890	908
904	922	904	891	964	990	1029	1019	1011	1059	1021	1071	1051	1000	972	902	931	921	871	905	920	943	1045	1028	1031	1056	1041	1038	1060	1047	1007	916	872	877	899	914
947	912	919	887	929	985	1012	1046	1055	1051	1058	1082	1043	989	961	902	915	916	883	890	915	957	1025	1044	1047	1073	1083	1075	1077	1055	1014	956	950	923	916	951
967	941	925	929	972	1011	1058	1064	1091	1103	1097	1071	1058	1035	974	934	936	940	949	969	991	1029	1068	1077	1086	1088	1084	1076	1057	1046	1029	993	956	934	939	967
1009	1009	1015	1023	1027	1055	1094	1128	1142	1148	1154	1049	1147	1131	1096	1062	1036	1007	1013	1048	1074	1084	1076	1066	1081	1028	1089	1052	1028	1026	1019	980	940	982	1009	1014
1053	1035	969	944	942	891	981	1026	950	899	830	839	1031	1117	1216	1062	954	745	631	526	540	557	481	776	846	880	612	182	252	388	498	739	848	866	906	984
194	223	221	234	255	262	293	238	115	235	326	322	280	306	354	303	238	178	117	85	97	87	29	13	10	12	22	30	81	155	204	251	275	249	246	199

Figure 26. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS8 (Surface)
NOAA15, using all observations



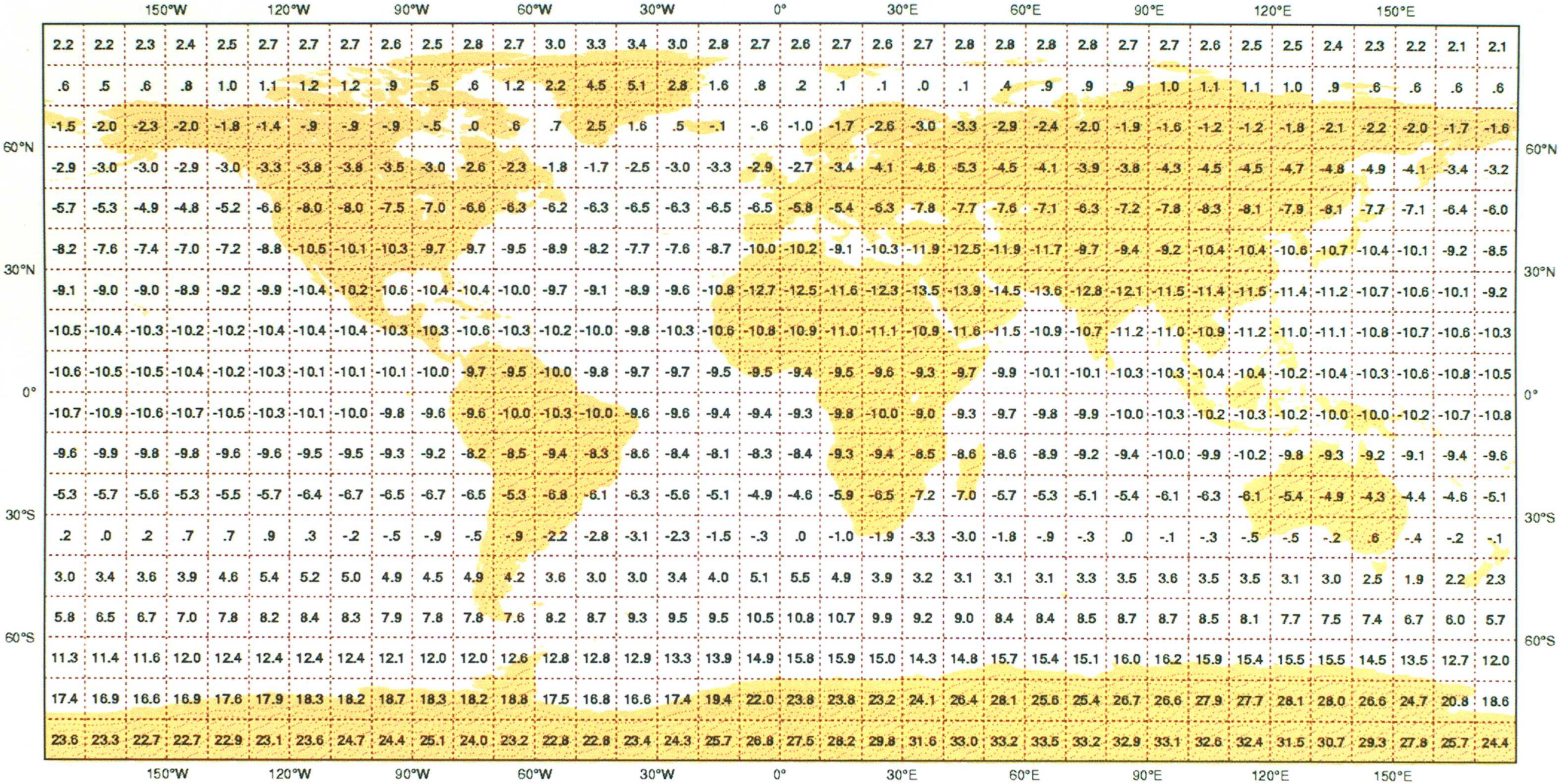
-.9	-.9	-.9	-.9	-.9	-.9	-1.0	-1.0	-1.1	-1.2	.9	-1.0	.9	2.7	2.8	.5	-.7	-.7	-.8	-.8	-.9	-.7	-.6	-.6	-.6	-.5	-.6	-1.0	-.7	-.8	-.8	-.7	-.7	-.8	-.8	-.8
-1.7	-2.5	-2.6	-2.1	-2.2	-3.0	-3.5	-2.7	-3.8	-5.7	-6.5	-1.8	1.9	11.2	13.1	3.6	-1.9	-4.9	-7.6	-7.2	-6.4	-6.1	-5.7	-3.9	-1.9	-2.6	-3.9	-4.9	-4.8	-3.3	-2.5	-1.7	-2.6	-1.5	-1.1	-1.4
-9.0	-12.5	-14.3	-12.2	-12.2	-11.7	-10.7	-10.3	-10.0	-7.5	-6.0	-4.7	-6.5	2.7	-2.6	-7.9	-9.7	-11.2	-12.0	-12.5	-14.7	-15.1	-14.9	-14.3	-13.4	-12.8	-13.5	-11.7	-11.4	-11.4	-11.9	-11.6	-11.4	-12.0	-12.0	-11.1
-10.9	-12.1	-13.6	-14.3	-13.1	-14.1	-15.6	-15.6	-14.5	-11.6	-12.8	-12.0	-10.3	-11.5	-13.3	-14.6	-15.0	-14.5	-15.3	-16.2	-17.0	-18.2	-19.4	-18.5	-17.7	-17.3	-16.3	-15.5	-16.2	-15.9	-15.4	-14.7	-14.0	-13.0	-12.6	-11.0
-14.9	-14.9	-15.3	-16.1	-16.8	-18.5	-21.0	-21.2	-20.7	-19.8	-19.5	-18.5	-18.3	-18.7	-19.5	-19.5	-19.3	-19.7	-18.8	-18.7	-20.0	-22.9	-22.0	-24.1	-23.6	-18.6	-18.7	-18.6	-20.0	-21.1	-19.9	-19.6	-17.5	-15.3	-14.6	-14.6
-21.7	-21.9	-21.6	-20.7	-19.9	-19.7	-24.3	-21.9	-24.5	-22.9	-23.2	-23.5	-22.9	-22.8	-22.8	-22.2	-22.6	-26.1	-27.1	-26.2	-26.8	-26.9	-28.4	-25.7	-25.8	-15.9	-11.2	-10.0	-17.4	-21.8	-22.5	-22.5	-22.4	-22.1	-21.6	-21.2
-24.1	-24.2	-23.8	-23.0	-22.0	-21.5	-23.0	-21.8	-24.7	-24.2	-24.1	-24.1	-24.0	-23.5	-23.4	-23.6	-26.3	-33.0	-30.6	-29.8	-30.7	-31.4	-31.7	-32.0	-28.0	-24.6	-19.3	-17.3	-18.9	-22.2	-23.1	-23.6	-23.6	-23.9	-23.5	-23.5
-24.2	-24.1	-23.4	-22.7	-22.8	-22.3	-22.1	-22.1	-21.7	-23.0	-24.2	-24.3	-24.5	-23.5	-22.8	-23.4	-25.0	-25.3	-24.6	-25.8	-24.8	-22.9	-24.6	-24.5	-23.1	-21.2	-22.4	-21.4	-21.4	-22.5	-22.4	-22.4	-22.5	-22.9	-23.4	-24.1
-23.4	-23.3	-23.4	-22.9	-22.7	-22.9	-22.5	-21.8	-21.6	-21.3	-20.3	-21.2	-23.0	-23.2	-22.8	-22.4	-21.5	-21.2	-20.9	-20.6	-20.9	-19.4	-22.0	-23.4	-23.8	-23.6	-23.4	-22.4	-23.1	-22.7	-22.3	-22.1	-22.0	-22.6	-23.1	-23.3
-25.2	-25.9	-25.9	-25.6	-25.2	-24.7	-23.9	-22.9	-22.1	-20.5	-21.4	-24.6	-25.8	-25.4	-23.9	-24.0	-22.8	-22.1	-21.7	-22.2	-22.6	-19.8	-23.0	-23.2	-23.1	-22.9	-22.5	-23.1	-23.5	-23.7	-23.4	-22.4	-21.2	-21.9	-23.4	-24.4
-23.0	-24.1	-24.4	-24.4	-24.3	-24.1	-23.8	-23.0	-21.9	-19.9	-15.7	-20.0	-24.7	-21.2	-23.2	-22.8	-22.0	-21.1	-20.2	-19.8	-21.3	-21.2	-22.2	-22.8	-22.8	-22.5	-22.0	-22.9	-23.5	-24.5	-22.5	-21.3	-21.7	-22.6	-22.1	-22.5
-20.1	-20.5	-20.3	-19.9	-20.1	-20.1	-20.1	-20.1	-19.7	-18.8	-16.9	-11.1	-19.0	-19.6	-21.6	-20.9	-20.0	-19.4	-18.6	-15.0	-15.3	-21.8	-21.6	-21.1	-20.5	-20.1	-19.6	-19.3	-19.8	-16.8	-13.1	-12.6	-12.8	-19.0	-20.1	-20.1
-15.5	-15.2	-15.1	-14.7	-14.7	-14.8	-14.7	-14.5	-14.3	-14.3	-11.8	-8.6	-14.0	-17.2	-16.7	-15.8	-15.3	-15.0	-15.3	-15.4	-14.7	-18.6	-17.3	-16.5	-15.6	-14.9	-14.1	-13.8	-14.6	-14.2	-13.4	-12.9	-8.7	-16.5	-16.6	-15.5
-11.5	-11.1	-10.9	-10.6	-10.5	-10.0	-9.6	-9.4	-9.2	-9.4	-5.7	-6.3	-9.7	-9.8	-8.2	-7.6	-7.5	-7.1	-7.3	-7.8	-8.8	-8.4	-7.0	-7.9	-8.5	-8.6	-9.4	-9.1	-8.9	-9.6	-10.1	-10.4	-10.9	-12.0	-11.3	-10.2
-6.6	-6.1	-5.4	-5.2	-5.8	-6.3	-6.2	-6.2	-5.9	-6.0	-5.3	-5.0	-3.6	-1.8	-.7	-.4	-.6	.7	1.0	.5	-1.2	-1.9	-1.7	-2.1	-2.2	-1.3	-2.0	-2.6	-2.4	-3.1	-4.0	-4.1	-3.8	-4.8	-6.4	-6.8
1.6	1.2	1.8	2.5	1.5	.8	.5	.5	.8	1.1	1.7	6.0	5.7	5.3	4.8	5.3	6.7	8.9	9.9	9.4	7.5	6.5	9.7	14.6	12.7	10.4	13.7	14.5	13.8	12.5	12.9	14.1	10.2	6.9	4.3	2.5
12.3	10.8	11.4	13.6	15.3	15.9	16.6	15.2	18.3	17.9	18.3	22.7	16.9	13.8	12.7	16.6	24.6	34.5	38.3	35.6	32.3	36.2	44.6	50.1	42.9	42.2	45.8	46.9	49.6	47.9	48.5	49.4	46.6	41.6	26.4	16.0
30.7	29.4	28.1	31.1	31.2	30.7	32.0	35.0	36.2	37.0	33.4	30.2	29.3	30.1	32.2	36.2	40.4	44.0	46.7	48.5	51.5	54.0	56.3	55.8	55.8	56.2	56.0	56.3	56.5	56.8	54.9	52.9	49.4	45.1	36.5	32.4

Figure 27. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS8 (Surface)
NOAA15, using all observations



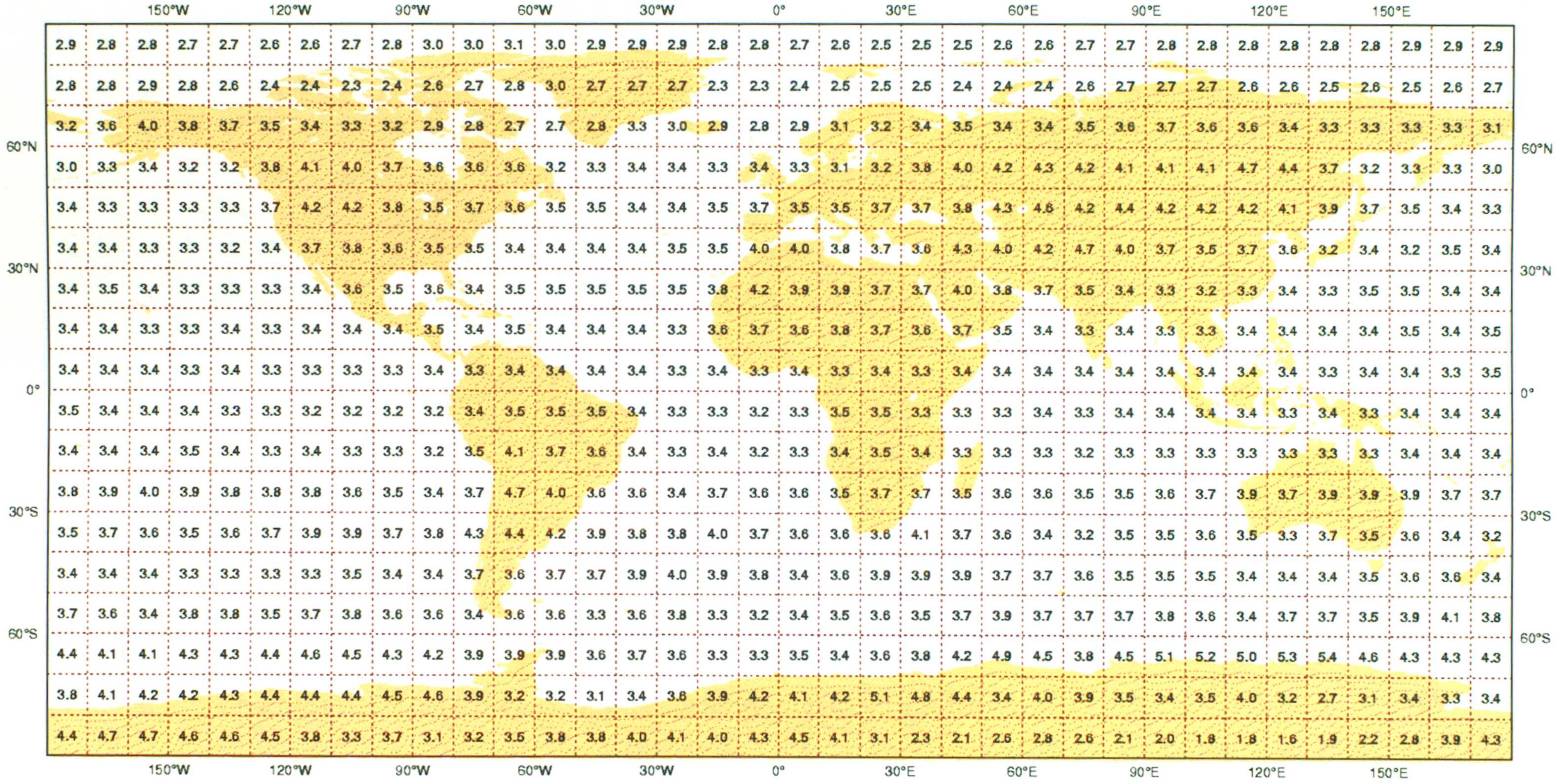
1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.5	2.7	3.5	2.9	4.2	5.3	6.0	4.2	1.4	1.3	1.2	1.0	1.0	.9	.9	.9	.9	.9	1.0	1.7	1.0	1.0	1.0	1.0	1.1	1.2	1.2	1.2
1.2	2.2	2.9	2.2	2.3	2.7	3.1	2.9	3.0	4.9	4.4	4.4	7.2	5.7	5.9	6.1	2.1	3.3	2.5	3.3	3.9	3.6	3.2	3.1	2.5	3.7	4.7	4.4	4.3	4.1	3.7	3.1	3.8	2.4	.8	1.0
3.2	3.9	6.3	7.5	6.2	5.3	5.3	4.9	4.8	3.6	3.4	2.4	2.4	6.1	9.0	5.5	3.2	1.2	1.5	2.8	2.8	3.1	3.9	4.4	4.9	4.5	4.4	4.8	5.2	5.6	5.0	4.5	4.5	4.5	3.8	3.5
.9	1.3	1.7	1.2	4.6	5.3	5.5	5.6	5.0	5.5	3.9	4.2	2.7	2.7	1.8	1.6	1.4	2.0	2.2	2.4	2.7	3.5	4.7	5.6	6.0	5.3	4.7	5.4	5.7	6.5	6.4	4.5	2.2	1.9	1.7	.9
2.6	2.3	2.1	1.8	1.3	4.9	6.7	6.3	4.7	3.7	3.6	2.8	3.1	3.1	2.1	1.7	1.5	3.9	4.4	4.4	4.1	3.4	5.1	5.6	6.4	6.1	6.9	6.8	5.9	5.8	4.1	3.4	2.7	2.9	2.4	2.5
1.8	1.9	1.7	1.5	1.2	3.2	5.3	5.3	3.8	3.0	2.3	1.7	1.8	1.8	1.5	1.1	1.1	6.0	6.1	3.3	3.1	5.0	8.7	6.5	7.2	10.6	9.9	6.3	5.8	3.7	2.4	2.3	2.1	2.0	2.1	1.9
1.5	1.3	1.1	1.0	1.1	1.2	2.4	4.0	2.7	1.8	1.8	1.8	1.6	1.5	1.3	1.1	5.4	6.7	6.6	5.1	5.0	5.3	6.4	5.5	4.6	4.2	5.8	4.3	3.2	2.7	2.0	1.9	1.8	1.7	1.8	1.7
1.8	1.8	1.8	2.1	1.9	1.8	1.9	2.1	2.6	2.2	1.8	1.7	1.7	1.9	1.9	2.0	4.3	4.8	4.3	4.9	5.2	4.9	4.2	3.4	1.5	2.1	1.9	1.9	1.9	1.9	1.9	1.7	1.7	1.7	1.7	1.8
2.2	2.2	2.0	1.8	1.9	1.7	1.5	1.4	1.4	1.4	2.4	2.2	2.2	2.1	2.1	1.9	1.8	1.8	1.9	2.0	1.7	3.2	3.2	1.5	1.7	1.7	1.8	2.0	1.7	1.8	1.6	1.5	1.8	1.9	1.8	2.0
1.9	1.5	1.3	1.1	.9	.9	.9	.9	.9	1.3	4.0	3.0	3.2	3.3	2.2	.9	.9	.8	1.0	3.2	3.9	4.1	1.2	1.3	1.7	1.6	1.9	2.0	1.9	1.8	1.9	2.4	2.3	1.8	2.0	2.1
2.0	1.9	1.7	1.8	1.4	1.2	.7	.7	.7	.8	6.1	9.3	5.4	4.9	1.6	.9	.9	.9	1.1	5.1	5.4	4.3	4.0	1.0	1.0	1.2	1.5	1.5	1.5	1.3	4.5	4.3	3.2	1.5	1.8	1.9
1.6	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.5	1.0	2.4	10.3	5.6	3.9	1.6	1.1	1.1	1.0	.8	5.4	7.4	3.7	3.4	1.3	1.5	1.3	1.3	1.3	1.5	5.7	5.4	5.7	5.6	4.7	1.3	1.5
1.5	1.7	1.6	1.6	1.5	1.6	1.8	1.9	1.8	1.6	4.7	5.4	3.7	1.8	2.0	2.2	1.9	2.1	2.0	2.6	5.7	2.2	2.0	1.4	1.4	1.6	1.7	1.6	1.8	3.5	3.1	3.7	4.9	3.7	1.5	3.1
1.5	.9	.9	1.0	1.2	1.4	1.4	1.3	1.3	1.4	5.9	4.3	2.5	2.7	3.0	2.9	2.7	2.8	2.5	3.3	3.8	3.2	3.0	3.6	3.9	3.3	2.1	1.9	2.2	1.9	1.5	1.5	2.2	2.0	2.9	2.7
1.8	2.1	2.6	2.9	2.4	1.6	1.1	1.1	.9	.9	2.6	2.2	2.1	2.0	1.9	2.3	2.5	2.9	3.3	3.1	1.2	1.1	1.0	1.3	1.1	2.1	2.7	1.7	1.2	1.2	1.5	1.7	2.2	2.5	2.2	1.3
4.2	3.4	3.5	3.8	3.8	4.2	4.5	4.4	4.5	4.4	4.3	8.0	5.9	4.8	4.3	4.2	4.3	4.8	4.5	4.4	4.7	5.3	9.7	13.5	11.5	8.0	12.1	14.0	14.3	13.3	14.3	15.3	11.4	7.4	5.0	5.1
6.6	7.0	8.9	11.2	12.3	11.9	11.9	11.2	11.6	12.2	10.4	7.4	6.7	6.1	6.3	9.2	11.5	12.1	12.3	13.2	15.1	12.8	10.8	6.1	9.1	10.0	10.6	10.8	10.0	10.7	8.8	7.4	8.8	9.4	10.5	6.2
10.9	10.3	10.2	10.7	10.1	9.4	8.5	8.0	8.8	6.4	7.0	7.9	9.0	9.1	9.5	9.1	9.1	10.1	10.3	8.9	6.1	4.9	5.1	5.8	6.0	5.6	3.8	3.2	3.8	4.5	3.8	4.9	5.7	7.5	11.0	11.5

Figure 28. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



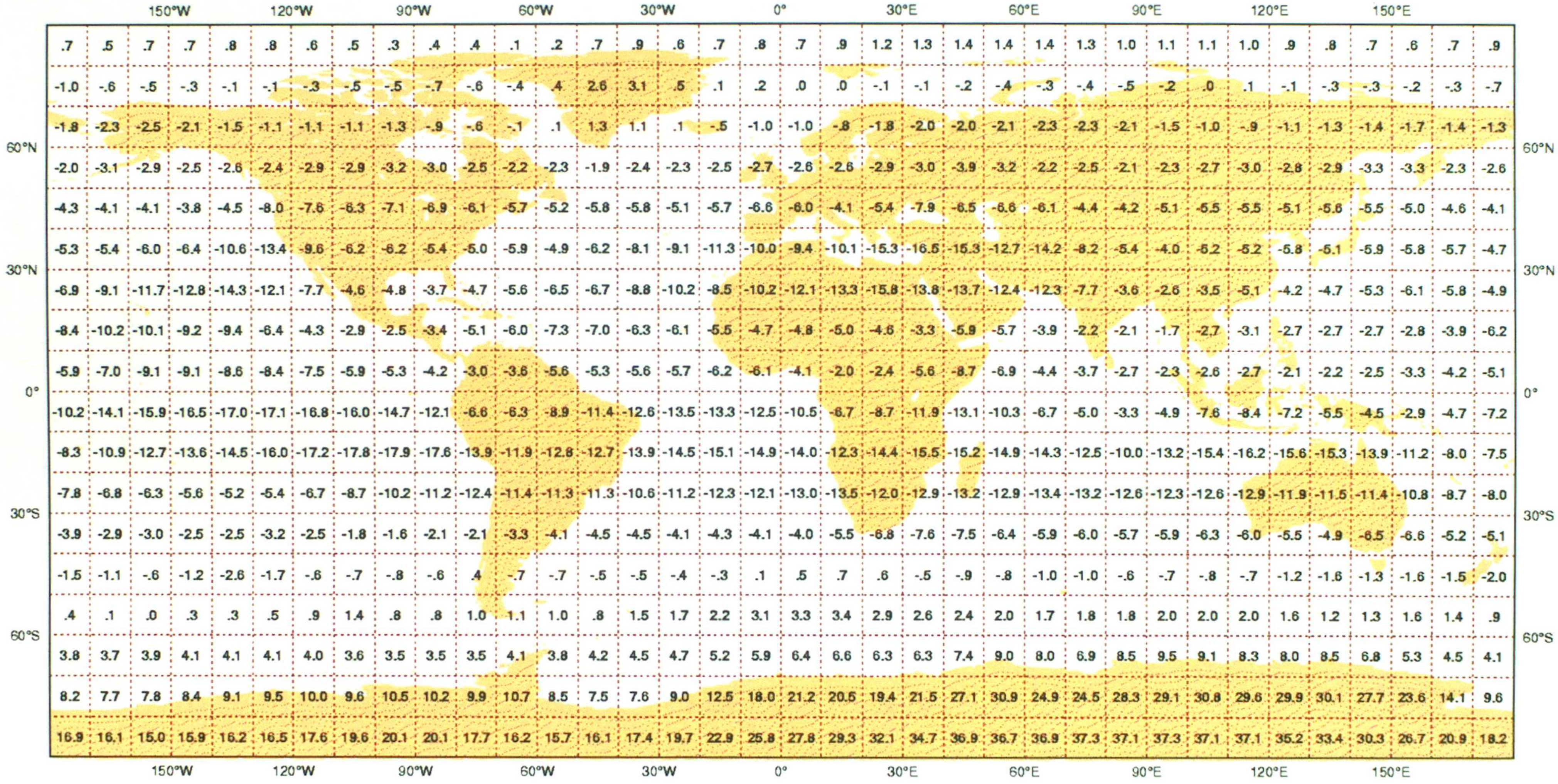
2.2	2.2	2.3	2.4	2.5	2.7	2.7	2.7	2.6	2.5	2.8	2.7	3.0	3.3	3.4	3.0	2.8	2.7	2.6	2.7	2.6	2.7	2.8	2.8	2.8	2.8	2.7	2.7	2.6	2.5	2.5	2.4	2.3	2.2	2.1	2.1
.6	.5	.6	.8	1.0	1.1	1.2	1.2	.9	.5	.6	1.2	2.2	4.5	5.1	2.8	1.6	.8	.2	.1	.1	.0	.1	.4	.9	.9	.9	1.0	1.1	1.1	1.0	.9	.6	.6	.6	.6
-1.5	-2.0	-2.3	-2.0	-1.8	-1.4	-.9	-.9	-.9	-.5	.0	.6	.7	2.5	1.6	.5	-.1	-.6	-1.0	-1.7	-2.6	-3.0	-3.3	-2.9	-2.4	-2.0	-1.9	-1.6	-1.2	-1.2	-1.8	-2.1	-2.2	-2.0	-1.7	-1.6
-2.9	-3.0	-3.0	-2.9	-3.0	-3.3	-3.8	-3.8	-3.5	-3.0	-2.6	-2.3	-1.8	-1.7	-2.5	-3.0	-3.3	-2.9	-2.7	-3.4	-4.1	-4.6	-5.3	-4.5	-4.1	-3.9	-3.8	-4.3	-4.5	-4.5	-4.7	-4.8	-4.9	-4.1	-3.4	-3.2
-5.7	-5.3	-4.9	-4.8	-5.2	-6.6	-8.0	-8.0	-7.5	-7.0	-6.6	-6.3	-6.2	-6.3	-6.5	-6.3	-6.5	-6.5	-5.8	-5.4	-6.3	-7.8	-7.7	-7.6	-7.1	-6.3	-7.2	-7.8	-8.3	-8.1	-7.9	-8.1	-7.7	-7.1	-6.4	-6.0
-8.2	-7.6	-7.4	-7.0	-7.2	-8.8	-10.5	-10.1	-10.3	-9.7	-9.7	-9.5	-8.9	-8.2	-7.7	-7.6	-8.7	-10.0	-10.2	-9.1	-10.3	-11.9	-12.5	-11.9	-11.7	-9.7	-9.4	-9.2	-10.4	-10.4	-10.6	-10.7	-10.4	-10.1	-9.2	-8.5
-9.1	-9.0	-9.0	-8.9	-9.2	-9.9	-10.4	-10.2	-10.6	-10.4	-10.4	-10.0	-9.7	-9.1	-8.9	-9.6	-10.8	-12.7	-12.5	-11.6	-12.3	-13.5	-13.9	-14.5	-13.6	-12.8	-12.1	-11.5	-11.4	-11.5	-11.4	-11.2	-10.7	-10.6	-10.1	-9.2
-10.5	-10.4	-10.3	-10.2	-10.2	-10.4	-10.4	-10.4	-10.3	-10.3	-10.6	-10.3	-10.2	-10.0	-9.8	-10.3	-10.6	-10.8	-10.9	-11.0	-11.1	-10.9	-11.6	-11.5	-10.9	-10.7	-11.2	-11.0	-10.9	-11.2	-11.0	-11.1	-10.8	-10.7	-10.6	-10.3
-10.6	-10.5	-10.5	-10.4	-10.2	-10.3	-10.1	-10.1	-10.1	-10.0	-9.7	-9.5	-10.0	-9.8	-9.7	-9.7	-9.5	-9.5	-9.4	-9.5	-9.6	-9.3	-9.7	-9.9	-10.1	-10.1	-10.3	-10.3	-10.4	-10.4	-10.2	-10.4	-10.3	-10.6	-10.8	-10.5
-10.7	-10.9	-10.6	-10.7	-10.5	-10.3	-10.1	-10.0	-9.8	-9.6	-9.6	-10.0	-10.3	-10.0	-9.6	-9.6	-9.4	-9.4	-9.3	-9.8	-10.0	-9.0	-9.3	-9.7	-9.8	-9.9	-10.0	-10.3	-10.2	-10.3	-10.2	-10.0	-10.0	-10.2	-10.7	-10.8
-9.6	-9.9	-9.8	-9.8	-9.6	-9.6	-9.5	-9.5	-9.3	-9.2	-8.2	-8.5	-9.4	-8.3	-8.6	-8.4	-8.1	-8.3	-8.4	-9.3	-9.4	-8.5	-8.6	-8.6	-8.9	-9.2	-9.4	-10.0	-9.9	-10.2	-9.8	-9.3	-9.2	-9.1	-9.4	-9.6
-5.3	-5.7	-5.6	-5.3	-5.5	-5.7	-6.4	-6.7	-6.5	-6.7	-6.5	-5.3	-6.8	-6.1	-6.3	-5.6	-5.1	-4.9	-4.6	-5.9	-6.5	-7.2	-7.0	-5.7	-5.3	-5.1	-5.4	-6.1	-6.3	-6.1	-5.4	-4.9	-4.3	-4.4	-4.6	-5.1
.2	.0	.2	.7	.7	.9	.3	-.2	-.5	-.9	-.5	-.9	-2.2	-2.8	-3.1	-2.3	-1.5	-.3	.0	-1.0	-1.9	-3.3	-3.0	-1.8	-.9	-.3	.0	-.1	-.3	-.5	-.5	-.2	.6	-.4	-.2	-.1
3.0	3.4	3.6	3.9	4.6	5.4	5.2	5.0	4.9	4.5	4.9	4.2	3.6	3.0	3.0	3.4	4.0	5.1	5.5	4.9	3.9	3.2	3.1	3.1	3.1	3.3	3.5	3.6	3.5	3.5	3.1	3.0	2.5	1.9	2.2	2.3
5.8	6.5	6.7	7.0	7.8	8.2	8.4	8.3	7.9	7.8	7.8	7.6	8.2	8.7	9.3	9.5	9.5	10.5	10.8	10.7	9.9	9.2	9.0	8.4	8.4	8.5	8.7	8.7	8.5	8.1	7.7	7.5	7.4	6.7	6.0	5.7
11.3	11.4	11.6	12.0	12.4	12.4	12.4	12.4	12.1	12.0	12.0	12.6	12.8	12.8	12.9	13.3	13.9	14.9	15.8	15.9	15.0	14.3	14.8	15.7	15.4	15.1	16.0	16.2	15.9	15.4	15.5	15.5	14.5	13.5	12.7	12.0
17.4	16.9	16.6	16.9	17.6	17.9	18.3	18.2	18.7	18.3	18.2	18.8	17.5	16.8	16.6	17.4	19.4	22.0	23.8	23.8	23.2	24.1	26.4	28.1	25.6	25.4	26.7	26.6	27.9	27.7	28.1	28.0	26.6	24.7	20.8	18.6
23.6	23.3	22.7	22.7	22.9	23.1	23.6	24.7	24.4	25.1	24.0	23.2	22.8	22.8	23.4	24.3	25.7	26.8	27.5	28.2	29.8	31.6	33.0	33.2	33.5	33.2	32.9	33.1	32.6	32.4	31.5	30.7	29.3	27.8	25.7	24.4

Figure 29. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



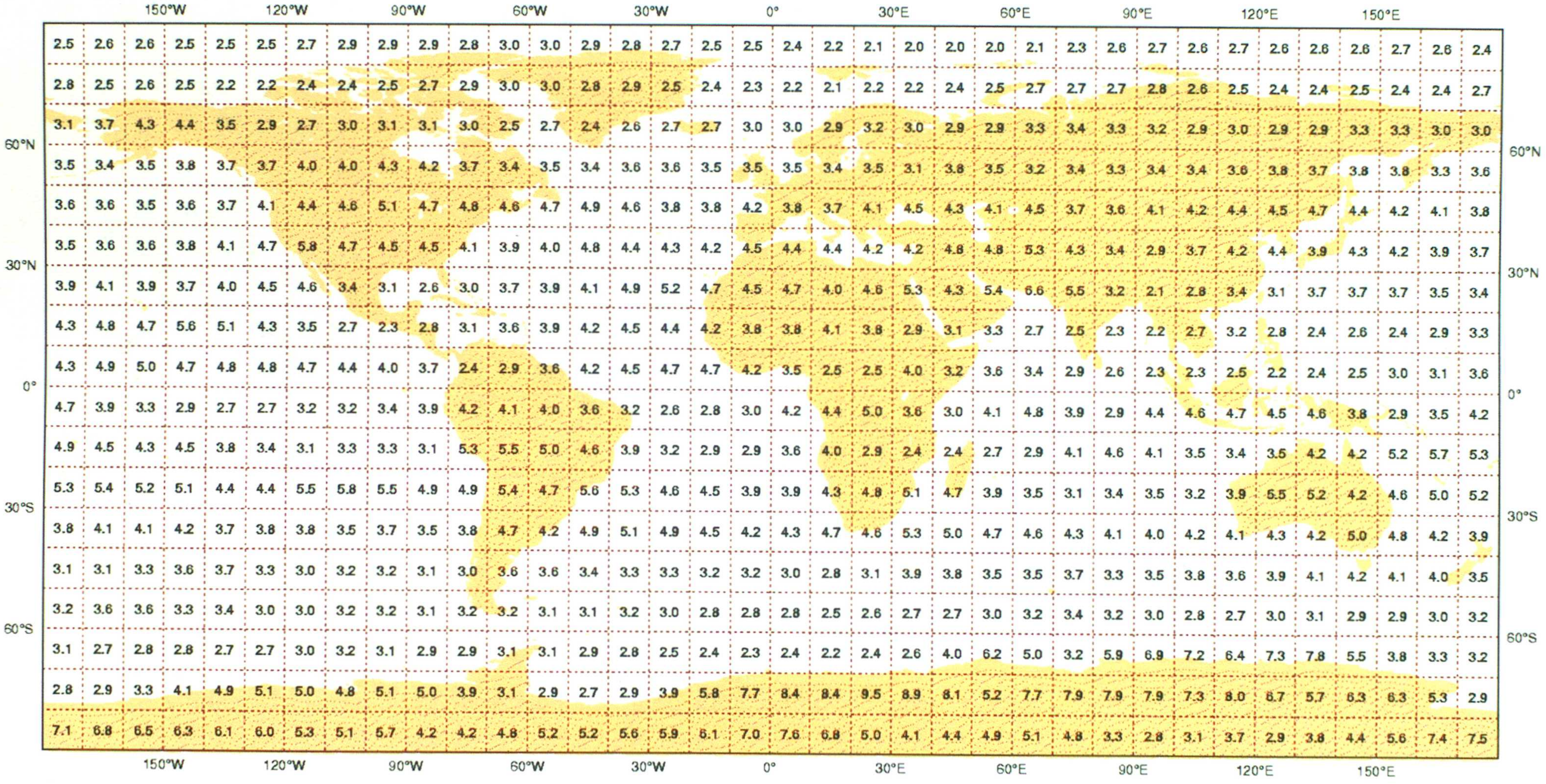
2.9	2.8	2.8	2.7	2.7	2.6	2.6	2.7	2.8	3.0	3.0	3.1	3.0	2.9	2.9	2.9	2.8	2.8	2.7	2.6	2.5	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.9	2.9
2.8	2.8	2.9	2.8	2.6	2.4	2.4	2.3	2.4	2.6	2.7	2.8	3.0	2.7	2.7	2.7	2.3	2.3	2.4	2.5	2.5	2.5	2.4	2.4	2.4	2.6	2.7	2.7	2.7	2.6	2.6	2.5	2.6	2.5	2.6	2.7
3.2	3.6	4.0	3.8	3.7	3.5	3.4	3.3	3.2	2.9	2.8	2.7	2.7	2.8	3.3	3.0	2.9	2.8	2.9	3.1	3.2	3.4	3.5	3.4	3.4	3.5	3.6	3.7	3.6	3.6	3.4	3.3	3.3	3.3	3.3	3.1
3.0	3.3	3.4	3.2	3.2	3.8	4.1	4.0	3.7	3.6	3.6	3.6	3.2	3.3	3.4	3.4	3.3	3.4	3.3	3.1	3.2	3.8	4.0	4.2	4.3	4.2	4.1	4.1	4.1	4.7	4.4	3.7	3.2	3.3	3.3	3.0
3.4	3.3	3.3	3.3	3.3	3.7	4.2	4.2	3.8	3.5	3.7	3.6	3.5	3.5	3.4	3.4	3.5	3.7	3.5	3.5	3.7	3.7	3.8	4.3	4.6	4.2	4.4	4.2	4.2	4.2	4.1	3.9	3.7	3.5	3.4	3.3
3.4	3.4	3.3	3.3	3.2	3.4	3.7	3.8	3.6	3.5	3.5	3.4	3.4	3.4	3.4	3.5	3.5	4.0	4.0	3.8	3.7	3.6	4.3	4.0	4.2	4.7	4.0	3.7	3.5	3.7	3.6	3.2	3.4	3.2	3.5	3.4
3.4	3.5	3.4	3.3	3.3	3.3	3.4	3.6	3.5	3.6	3.4	3.5	3.5	3.5	3.5	3.5	3.8	4.2	3.9	3.9	3.7	3.7	4.0	3.8	3.7	3.5	3.4	3.3	3.2	3.3	3.4	3.3	3.5	3.5	3.4	3.4
3.4	3.4	3.3	3.3	3.4	3.3	3.4	3.4	3.4	3.5	3.4	3.5	3.4	3.4	3.4	3.3	3.6	3.7	3.6	3.8	3.7	3.6	3.7	3.5	3.4	3.3	3.4	3.3	3.3	3.4	3.4	3.4	3.4	3.5	3.4	3.5
3.4	3.4	3.4	3.3	3.4	3.3	3.3	3.3	3.3	3.4	3.3	3.4	3.4	3.4	3.4	3.3	3.4	3.3	3.4	3.3	3.4	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.3	3.5
3.5	3.4	3.4	3.4	3.3	3.3	3.2	3.2	3.2	3.2	3.4	3.5	3.5	3.5	3.4	3.3	3.3	3.2	3.3	3.5	3.5	3.3	3.3	3.3	3.4	3.3	3.4	3.4	3.4	3.4	3.3	3.4	3.3	3.4	3.4	3.4
3.4	3.4	3.4	3.5	3.4	3.3	3.4	3.3	3.3	3.2	3.5	4.1	3.7	3.6	3.4	3.3	3.4	3.2	3.3	3.4	3.5	3.4	3.3	3.3	3.3	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4
3.8	3.9	4.0	3.9	3.8	3.8	3.8	3.6	3.5	3.4	3.7	4.7	4.0	3.6	3.6	3.4	3.7	3.6	3.6	3.5	3.7	3.7	3.5	3.6	3.6	3.5	3.5	3.6	3.7	3.9	3.7	3.9	3.9	3.9	3.7	3.7
3.5	3.7	3.6	3.5	3.6	3.7	3.9	3.9	3.7	3.8	4.3	4.4	4.2	3.9	3.8	3.8	4.0	3.7	3.6	3.6	3.6	4.1	3.7	3.6	3.4	3.2	3.5	3.5	3.6	3.5	3.3	3.7	3.5	3.6	3.4	3.2
3.4	3.4	3.4	3.3	3.3	3.3	3.3	3.5	3.4	3.4	3.7	3.6	3.7	3.7	3.9	4.0	3.9	3.8	3.4	3.6	3.9	3.9	3.9	3.7	3.7	3.6	3.5	3.5	3.5	3.4	3.4	3.4	3.5	3.6	3.6	3.4
3.7	3.6	3.4	3.8	3.8	3.5	3.7	3.8	3.6	3.6	3.4	3.6	3.6	3.3	3.6	3.8	3.3	3.2	3.4	3.5	3.6	3.5	3.7	3.9	3.7	3.7	3.7	3.8	3.6	3.4	3.7	3.7	3.5	3.9	4.1	3.8
4.4	4.1	4.1	4.3	4.3	4.4	4.6	4.5	4.3	4.2	3.9	3.9	3.9	3.6	3.7	3.6	3.3	3.3	3.5	3.4	3.6	3.8	4.2	4.9	4.5	3.8	4.5	5.1	5.2	5.0	5.3	5.4	4.6	4.3	4.3	4.3
3.8	4.1	4.2	4.2	4.3	4.4	4.4	4.4	4.5	4.6	3.9	3.2	3.2	3.1	3.4	3.6	3.9	4.2	4.1	4.2	5.1	4.8	4.4	3.4	4.0	3.9	3.5	3.4	3.5	4.0	3.2	2.7	3.1	3.4	3.3	3.4
4.4	4.7	4.7	4.6	4.6	4.5	3.8	3.3	3.7	3.1	3.2	3.5	3.8	3.8	4.0	4.1	4.0	4.3	4.5	4.1	3.1	2.3	2.1	2.6	2.8	2.6	2.1	2.0	1.8	1.8	1.6	1.9	2.2	2.8	3.9	4.3

Figure 30. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



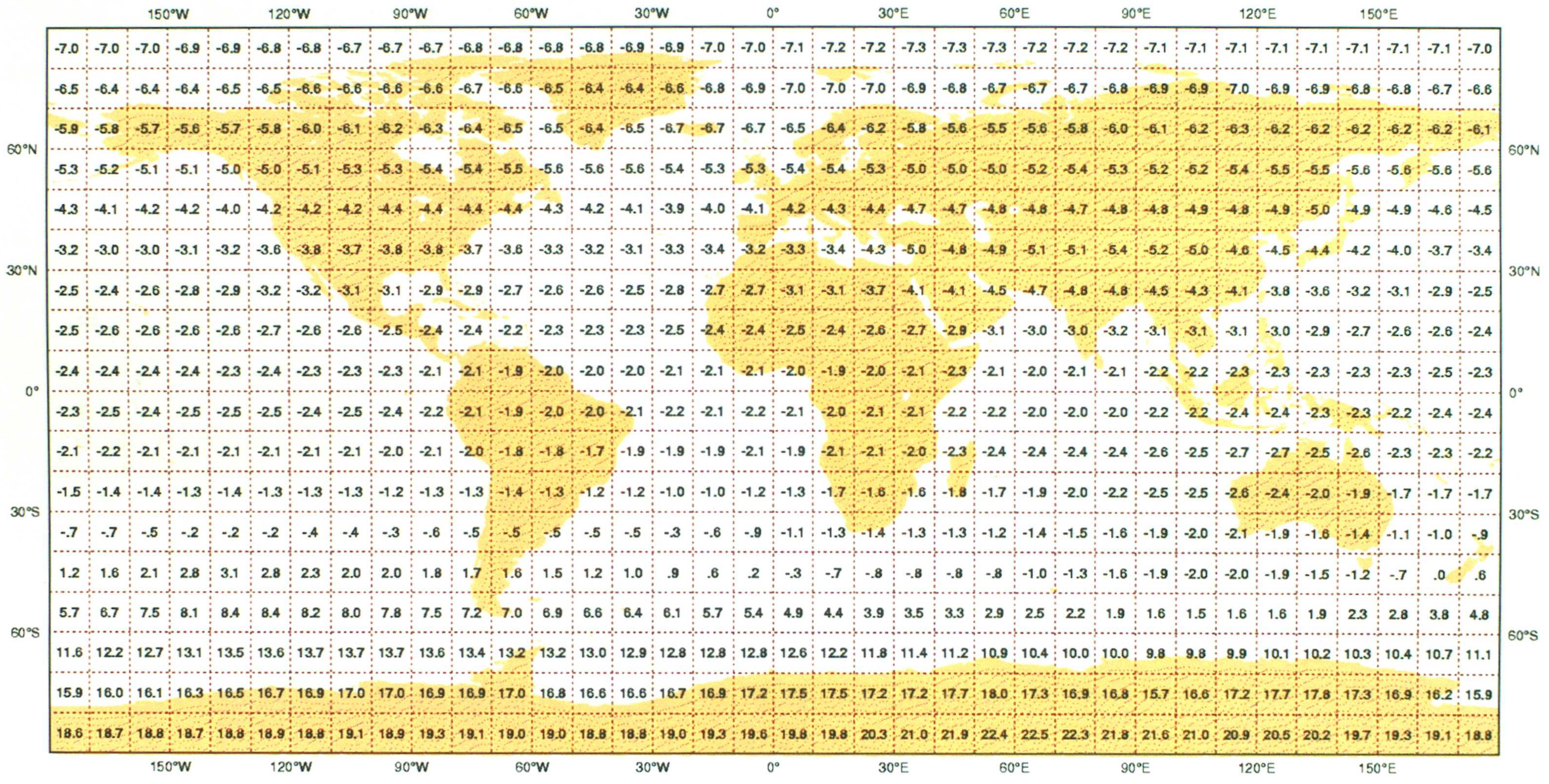
.7	.5	.7	.7	.8	.8	.6	.5	.3	.4	.4	.1	.2	.7	.9	.6	.7	.8	.7	.9	1.2	1.3	1.4	1.4	1.4	1.3	1.0	1.1	1.1	1.0	.9	.8	.7	.6	.7	.9
-1.0	-.6	-.5	-.3	-.1	-.1	-.3	-.5	-.5	-.7	-.6	-.4	.4	2.6	3.1	.5	.1	.2	.0	.0	-.1	-.1	-.2	-.4	-.3	-.4	-.5	-.2	.0	.1	-.1	-.3	-.3	-.2	-.3	-.7
-1.8	-2.3	-2.5	-2.1	-1.5	-1.1	-1.1	-1.1	-1.3	-.9	-.6	-.1	.1	1.3	1.1	.1	-.5	-1.0	-1.0	-.8	-1.8	-2.0	-2.0	-2.1	-2.3	-2.3	-2.1	-1.5	-1.0	-.9	-1.1	-1.3	-1.4	-1.7	-1.4	-1.3
-2.0	-3.1	-2.9	-2.5	-2.6	-2.4	-2.9	-2.9	-3.2	-3.0	-2.5	-2.2	-2.3	-1.9	-2.4	-2.3	-2.5	-2.7	-2.6	-2.6	-2.9	-3.0	-3.9	-3.2	-2.2	-2.5	-2.1	-2.3	-2.7	-3.0	-2.8	-2.9	-3.3	-3.3	-2.3	-2.6
-4.3	-4.1	-4.1	-3.8	-4.5	-8.0	-7.6	-6.3	-7.1	-6.9	-6.1	-5.7	-5.2	-5.8	-5.8	-5.1	-5.7	-6.6	-6.0	-4.1	-5.4	-7.9	-6.5	-6.6	-6.1	-4.4	-4.2	-5.1	-5.5	-5.5	-5.1	-5.6	-5.5	-5.0	-4.6	-4.1
-5.3	-5.4	-6.0	-6.4	-10.6	-13.4	-9.6	-6.2	-6.2	-5.4	-5.0	-5.9	-4.9	-6.2	-8.1	-9.1	-11.3	-10.0	-9.4	-10.1	-15.3	-16.5	-15.3	-12.7	-14.2	-8.2	-5.4	-4.0	-6.2	-5.2	-5.8	-5.1	-5.9	-5.8	-5.7	-4.7
-6.9	-9.1	-11.7	-12.8	-14.3	-12.1	-7.7	-4.6	-4.8	-3.7	-4.7	-5.6	-6.5	-6.7	-8.8	-10.2	-8.5	-10.2	-12.1	-13.3	-15.8	-13.8	-13.7	-12.4	-12.3	-7.7	-3.6	-2.6	-3.5	-5.1	-4.2	-4.7	-5.3	-6.1	-5.8	-4.9
-8.4	-10.2	-10.1	-9.2	-9.4	-6.4	-4.3	-2.9	-2.5	-3.4	-5.1	-6.0	-7.3	-7.0	-6.3	-6.1	-5.5	-4.7	-4.8	-5.0	-4.6	-3.3	-5.9	-5.7	-3.9	-2.2	-2.1	-1.7	-2.7	-3.1	-2.7	-2.7	-2.7	-2.8	-3.9	-6.2
-5.9	-7.0	-9.1	-9.1	-8.6	-8.4	-7.5	-5.9	-5.3	-4.2	-3.0	-3.6	-5.6	-5.3	-5.6	-5.7	-6.2	-6.1	-4.1	-2.0	-2.4	-5.6	-8.7	-6.9	-4.4	-3.7	-2.7	-2.3	-2.6	-2.7	-2.1	-2.2	-2.5	-3.3	-4.2	-5.1
-10.2	-14.1	-15.9	-16.5	-17.0	-17.1	-16.8	-16.0	-14.7	-12.1	-6.6	-6.3	-8.9	-11.4	-12.6	-13.5	-13.3	-12.5	-10.5	-6.7	-8.7	-11.9	-13.1	-10.3	-6.7	-5.0	-3.3	-4.9	-7.6	-8.4	-7.2	-5.5	-4.5	-2.9	-4.7	-7.2
-8.3	-10.9	-12.7	-13.6	-14.5	-16.0	-17.2	-17.8	-17.9	-17.6	-13.9	-11.9	-12.8	-12.7	-13.9	-14.5	-15.1	-14.9	-14.0	-12.3	-14.4	-15.5	-15.2	-14.9	-14.3	-12.5	-10.0	-13.2	-15.4	-16.2	-15.6	-15.3	-13.9	-11.2	-8.0	-7.5
-7.8	-6.8	-6.3	-5.6	-5.2	-5.4	-6.7	-8.7	-10.2	-11.2	-12.4	-11.4	-11.3	-11.3	-10.6	-11.2	-12.3	-12.1	-13.0	-13.5	-12.0	-12.9	-13.2	-12.9	-13.4	-13.2	-12.6	-12.3	-12.6	-12.9	-11.9	-11.5	-11.4	-10.8	-8.7	-8.0
-3.9	-2.9	-3.0	-2.5	-2.5	-3.2	-2.5	-1.8	-1.6	-2.1	-2.1	-3.3	-4.1	-4.5	-4.5	-4.1	-4.3	-4.1	-4.0	-5.5	-6.8	-7.6	-7.5	-6.4	-5.9	-6.0	-5.7	-5.9	-6.3	-6.0	-5.5	-4.9	-6.5	-6.6	-5.2	-5.1
-1.5	-1.1	-.6	-1.2	-2.6	-1.7	-.6	-.7	-.8	-.6	.4	-.7	-.7	-.5	-.5	-.4	-.3	.1	.5	.7	.6	-.5	-.9	-.8	-1.0	-1.0	-.6	-.7	-.8	-.7	-1.2	-1.6	-1.3	-1.6	-1.5	-2.0
.4	.1	.0	.3	.3	.5	.9	1.4	.8	.8	1.0	1.1	1.0	.8	1.5	1.7	2.2	3.1	3.3	3.4	2.9	2.6	2.4	2.0	1.7	1.8	1.8	2.0	2.0	2.0	1.6	1.2	1.3	1.6	1.4	.9
3.8	3.7	3.9	4.1	4.1	4.1	4.0	3.6	3.5	3.5	3.5	4.1	3.8	4.2	4.5	4.7	5.2	5.9	6.4	6.6	6.3	6.3	7.4	9.0	8.0	6.9	8.5	9.5	9.1	8.3	8.0	8.5	6.8	5.3	4.5	4.1
8.2	7.7	7.8	8.4	9.1	9.5	10.0	9.6	10.5	10.2	9.9	10.7	8.5	7.5	7.6	9.0	12.5	18.0	21.2	20.5	19.4	21.5	27.1	30.9	24.9	24.5	28.3	29.1	30.8	29.6	29.9	30.1	27.7	23.6	14.1	9.6
16.9	16.1	15.0	15.9	16.2	16.5	17.6	19.6	20.1	20.1	17.7	16.2	15.7	16.1	17.4	19.7	22.9	25.8	27.8	29.3	32.1	34.7	36.9	36.7	36.9	37.3	37.1	37.3	37.1	37.1	35.2	33.4	30.3	26.7	20.9	18.2

Figure 31. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



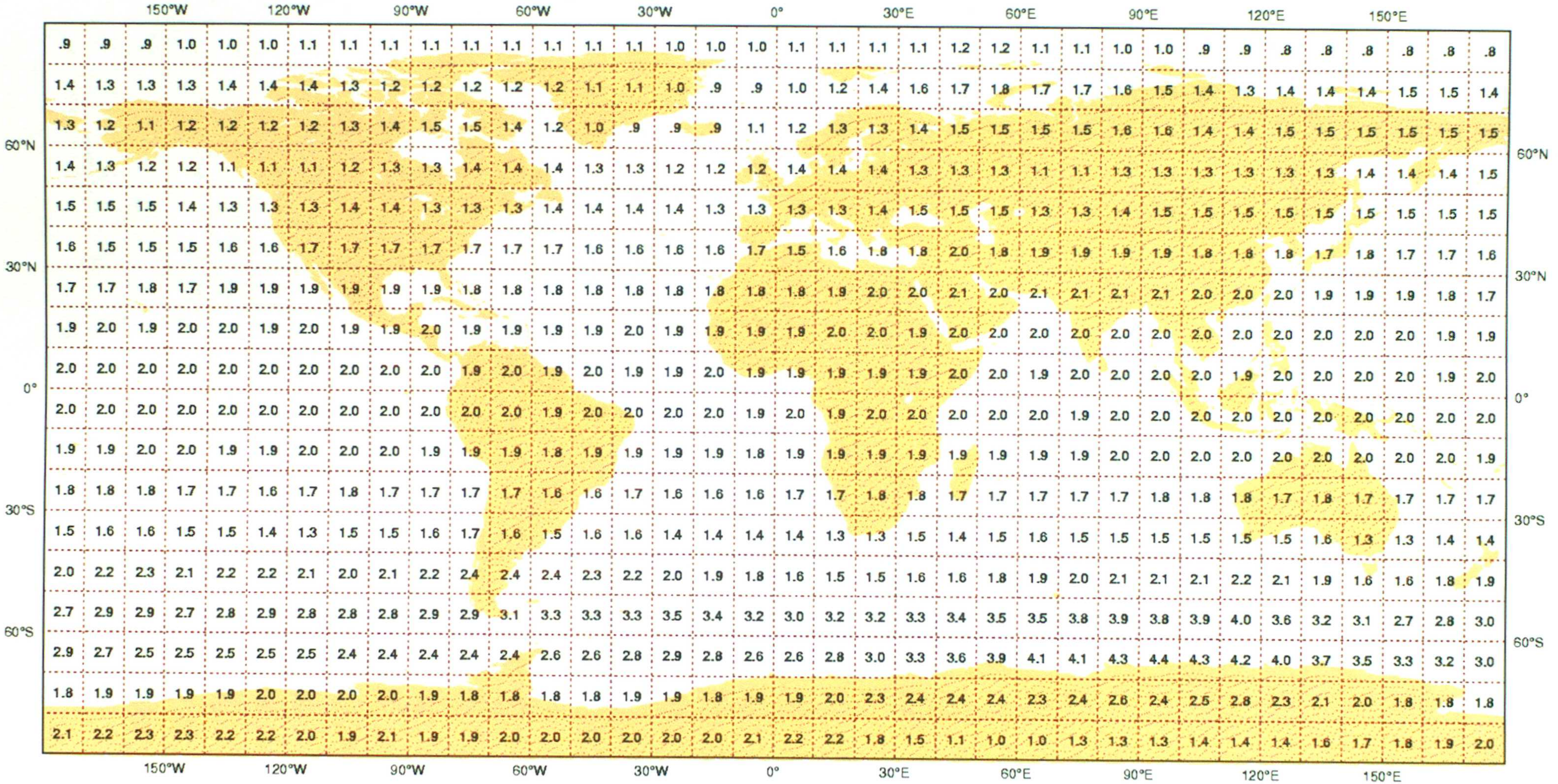
2.5	2.6	2.6	2.5	2.5	2.5	2.7	2.9	2.9	2.9	2.8	3.0	3.0	2.9	2.8	2.7	2.5	2.5	2.4	2.2	2.1	2.0	2.0	2.0	2.1	2.3	2.6	2.7	2.6	2.7	2.6	2.6	2.6	2.7	2.6	2.4
2.8	2.5	2.6	2.5	2.2	2.2	2.4	2.4	2.5	2.7	2.9	3.0	3.0	2.8	2.9	2.5	2.4	2.3	2.2	2.1	2.2	2.2	2.4	2.5	2.7	2.7	2.7	2.8	2.6	2.5	2.4	2.4	2.5	2.4	2.4	2.7
3.1	3.7	4.3	4.4	3.5	2.9	2.7	3.0	3.1	3.1	3.0	2.5	2.7	2.4	2.6	2.7	2.7	3.0	3.0	2.9	3.2	3.0	2.9	2.9	3.3	3.4	3.3	3.2	2.9	3.0	2.9	2.9	3.3	3.3	3.0	3.0
3.5	3.4	3.5	3.8	3.7	3.7	4.0	4.0	4.3	4.2	3.7	3.4	3.5	3.4	3.6	3.6	3.5	3.5	3.5	3.4	3.5	3.1	3.8	3.5	3.2	3.4	3.3	3.4	3.4	3.6	3.8	3.7	3.8	3.8	3.3	3.6
3.6	3.6	3.5	3.6	3.7	4.1	4.4	4.6	5.1	4.7	4.8	4.6	4.7	4.9	4.6	3.8	3.8	4.2	3.8	3.7	4.1	4.5	4.3	4.1	4.5	3.7	3.6	4.1	4.2	4.4	4.5	4.7	4.4	4.2	4.1	3.8
3.5	3.6	3.6	3.8	4.1	4.7	5.8	4.7	4.5	4.5	4.1	3.9	4.0	4.8	4.4	4.3	4.2	4.5	4.4	4.4	4.2	4.2	4.8	4.8	5.3	4.3	3.4	2.9	3.7	4.2	4.4	3.9	4.3	4.2	3.9	3.7
3.9	4.1	3.9	3.7	4.0	4.5	4.6	3.4	3.1	2.6	3.0	3.7	3.9	4.1	4.9	5.2	4.7	4.5	4.7	4.0	4.6	5.3	4.3	5.4	6.6	5.5	3.2	2.1	2.8	3.4	3.1	3.7	3.7	3.7	3.5	3.4
4.3	4.8	4.7	5.6	5.1	4.3	3.5	2.7	2.3	2.8	3.1	3.6	3.9	4.2	4.5	4.4	4.2	3.8	3.8	4.1	3.8	2.9	3.1	3.3	2.7	2.5	2.3	2.2	2.7	3.2	2.8	2.4	2.6	2.4	2.9	3.3
4.3	4.9	5.0	4.7	4.8	4.8	4.7	4.4	4.0	3.7	2.4	2.9	3.6	4.2	4.5	4.7	4.7	4.2	3.5	2.5	2.5	4.0	3.2	3.6	3.4	2.9	2.6	2.3	2.3	2.5	2.2	2.4	2.5	3.0	3.1	3.6
4.7	3.9	3.3	2.9	2.7	2.7	3.2	3.2	3.4	3.9	4.2	4.1	4.0	3.6	3.2	2.6	2.8	3.0	4.2	4.4	5.0	3.6	3.0	4.1	4.8	3.9	2.9	4.4	4.6	4.7	4.5	4.6	3.8	2.9	3.5	4.2
4.9	4.5	4.3	4.5	3.8	3.4	3.1	3.3	3.3	3.1	5.3	5.5	5.0	4.6	3.9	3.2	2.9	2.9	3.6	4.0	2.9	2.4	2.4	2.7	2.9	4.1	4.6	4.1	3.5	3.4	3.5	4.2	4.2	5.2	5.7	5.3
5.3	5.4	5.2	5.1	4.4	4.4	5.5	5.8	5.5	4.9	4.9	5.4	4.7	5.6	5.3	4.6	4.5	3.9	3.9	4.3	4.8	5.1	4.7	3.9	3.5	3.1	3.4	3.5	3.2	3.9	5.5	5.2	4.2	4.6	5.0	5.2
3.8	4.1	4.1	4.2	3.7	3.8	3.8	3.5	3.7	3.5	3.8	4.7	4.2	4.9	5.1	4.9	4.5	4.2	4.3	4.7	4.6	5.3	5.0	4.7	4.6	4.3	4.1	4.0	4.2	4.1	4.3	4.2	5.0	4.8	4.2	3.9
3.1	3.1	3.3	3.6	3.7	3.3	3.0	3.2	3.2	3.1	3.0	3.6	3.6	3.4	3.3	3.3	3.2	3.2	3.0	2.8	3.1	3.9	3.8	3.5	3.5	3.7	3.3	3.5	3.8	3.6	3.9	4.1	4.2	4.1	4.0	3.5
3.2	3.6	3.6	3.3	3.4	3.0	3.0	3.2	3.2	3.1	3.2	3.2	3.1	3.1	3.2	3.0	2.8	2.8	2.8	2.5	2.6	2.7	2.7	3.0	3.2	3.4	3.2	3.0	2.8	2.7	3.0	3.1	2.9	2.9	3.0	3.2
3.1	2.7	2.8	2.8	2.7	2.7	3.0	3.2	3.1	2.9	2.9	3.1	3.1	2.9	2.8	2.5	2.4	2.3	2.4	2.2	2.4	2.6	4.0	6.2	5.0	3.2	5.9	6.9	7.2	6.4	7.3	7.8	5.5	3.8	3.3	3.2
2.8	2.9	3.3	4.1	4.9	5.1	5.0	4.8	5.1	5.0	3.9	3.1	2.9	2.7	2.9	3.9	5.8	7.7	8.4	8.4	9.5	8.9	8.1	5.2	7.7	7.9	7.9	7.9	7.3	8.0	6.7	5.7	6.3	6.3	5.3	2.9
7.1	6.8	6.5	6.3	6.1	6.0	5.3	5.1	5.7	4.2	4.2	4.8	5.2	5.2	5.6	5.9	6.1	7.0	7.6	6.8	5.0	4.1	4.4	4.9	5.1	4.8	3.3	2.8	3.1	3.7	2.9	3.8	4.4	5.6	7.4	7.5

Figure 32. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



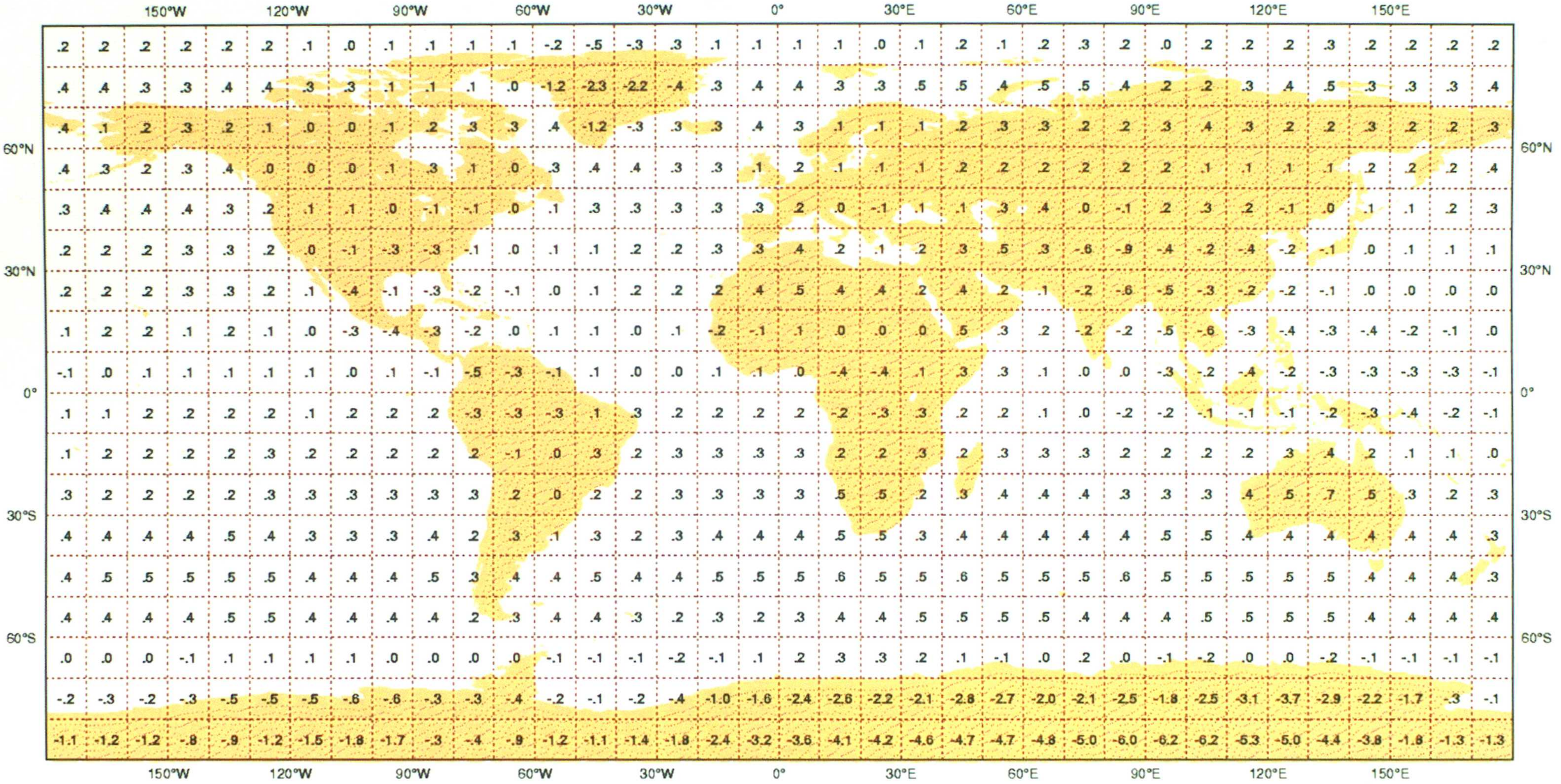
-7.0	-7.0	-7.0	-6.9	-6.9	-6.8	-6.8	-6.7	-6.7	-6.7	-6.8	-6.8	-6.8	-6.8	-6.9	-6.9	-7.0	-7.0	-7.1	-7.2	-7.2	-7.3	-7.3	-7.3	-7.2	-7.2	-7.2	-7.1	-7.1	-7.1	-7.1	-7.1	-7.1	-7.1	-7.1	-7.0
-6.5	-6.4	-6.4	-6.4	-6.5	-6.5	-6.6	-6.6	-6.6	-6.6	-6.7	-6.6	-6.5	-6.4	-6.4	-6.6	-6.8	-6.9	-7.0	-7.0	-7.0	-6.9	-6.8	-6.7	-6.7	-6.7	-6.8	-6.9	-6.9	-7.0	-6.9	-6.9	-6.8	-6.8	-6.7	-6.6
-5.9	-5.8	-5.7	-5.6	-5.7	-5.8	-6.0	-6.1	-6.2	-6.3	-6.4	-6.5	-6.5	-6.4	-6.5	-6.7	-6.7	-6.7	-6.5	-6.4	-6.2	-5.8	-5.6	-5.5	-5.6	-5.8	-6.0	-6.1	-6.2	-6.3	-6.2	-6.2	-6.2	-6.2	-6.2	-6.1
-5.3	-5.2	-5.1	-5.1	-5.0	-5.0	-5.1	-5.3	-5.3	-5.4	-5.4	-5.5	-5.6	-5.6	-5.6	-5.4	-5.3	-5.3	-5.4	-5.4	-5.3	-5.0	-5.0	-5.0	-5.2	-5.4	-5.3	-5.2	-5.2	-5.4	-5.5	-5.5	-5.6	-5.6	-5.6	-5.6
-4.3	-4.1	-4.2	-4.2	-4.0	-4.2	-4.2	-4.2	-4.4	-4.4	-4.4	-4.4	-4.3	-4.2	-4.1	-3.9	-4.0	-4.1	-4.2	-4.3	-4.4	-4.7	-4.7	-4.8	-4.8	-4.7	-4.8	-4.8	-4.9	-4.8	-4.9	-5.0	-4.9	-4.9	-4.6	-4.5
-3.2	-3.0	-3.0	-3.1	-3.2	-3.6	-3.8	-3.7	-3.8	-3.8	-3.7	-3.6	-3.3	-3.2	-3.1	-3.3	-3.4	-3.2	-3.3	-3.4	-4.3	-5.0	-4.8	-4.9	-5.1	-5.1	-5.4	-5.2	-5.0	-4.6	-4.5	-4.4	-4.2	-4.0	-3.7	-3.4
-2.5	-2.4	-2.6	-2.8	-2.9	-3.2	-3.2	-3.1	-3.1	-2.9	-2.9	-2.7	-2.6	-2.6	-2.5	-2.8	-2.7	-2.7	-3.1	-3.1	-3.7	-4.1	-4.1	-4.5	-4.7	-4.8	-4.8	-4.5	-4.3	-4.1	-3.8	-3.6	-3.2	-3.1	-2.9	-2.5
-2.5	-2.6	-2.6	-2.6	-2.6	-2.7	-2.6	-2.6	-2.5	-2.4	-2.4	-2.2	-2.3	-2.3	-2.3	-2.5	-2.4	-2.4	-2.5	-2.4	-2.6	-2.7	-2.9	-3.1	-3.0	-3.0	-3.2	-3.1	-3.1	-3.1	-3.0	-2.9	-2.7	-2.6	-2.6	-2.4
-2.4	-2.4	-2.4	-2.4	-2.3	-2.4	-2.3	-2.3	-2.3	-2.1	-2.1	-1.9	-2.0	-2.0	-2.0	-2.1	-2.1	-2.1	-2.0	-1.9	-2.0	-2.1	-2.3	-2.1	-2.0	-2.1	-2.1	-2.2	-2.2	-2.3	-2.3	-2.3	-2.3	-2.3	-2.5	-2.3
-2.3	-2.5	-2.4	-2.5	-2.5	-2.5	-2.4	-2.5	-2.4	-2.2	-2.1	-1.9	-2.0	-2.0	-2.1	-2.2	-2.1	-2.2	-2.1	-2.0	-2.1	-2.1	-2.2	-2.2	-2.0	-2.0	-2.0	-2.2	-2.2	-2.4	-2.4	-2.3	-2.3	-2.2	-2.4	-2.4
-2.1	-2.2	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-2.0	-2.1	-2.0	-1.8	-1.8	-1.7	-1.9	-1.9	-1.9	-2.1	-1.9	-2.1	-2.1	-2.0	-2.3	-2.4	-2.4	-2.4	-2.4	-2.6	-2.5	-2.7	-2.7	-2.5	-2.6	-2.3	-2.3	-2.2
-1.5	-1.4	-1.4	-1.3	-1.4	-1.3	-1.3	-1.3	-1.2	-1.3	-1.3	-1.4	-1.3	-1.2	-1.2	-1.0	-1.0	-1.2	-1.3	-1.7	-1.6	-1.6	-1.8	-1.7	-1.9	-2.0	-2.2	-2.5	-2.5	-2.6	-2.4	-2.0	-1.9	-1.7	-1.7	-1.7
-.7	-.7	-.5	-.2	-.2	-.2	-.4	-.4	-.3	-.6	-.5	-.5	-.5	-.5	-.5	-.3	-.6	-.9	-1.1	-1.3	-1.4	-1.3	-1.3	-1.2	-1.4	-1.5	-1.6	-1.9	-2.0	-2.1	-1.9	-1.6	-1.4	-1.1	-1.0	-.9
1.2	1.6	2.1	2.8	3.1	2.8	2.3	2.0	2.0	1.8	1.7	1.6	1.5	1.2	1.0	.9	.6	.2	-.3	-.7	-.8	-.8	-.8	-.8	-1.0	-1.3	-1.6	-1.9	-2.0	-2.0	-1.9	-1.5	-1.2	-.7	.0	.6
5.7	6.7	7.5	8.1	8.4	8.4	8.2	8.0	7.8	7.5	7.2	7.0	6.9	6.6	6.4	6.1	5.7	5.4	4.9	4.4	3.9	3.5	3.3	2.9	2.5	2.2	1.9	1.6	1.5	1.6	1.6	1.9	2.3	2.8	3.8	4.8
11.6	12.2	12.7	13.1	13.5	13.6	13.7	13.7	13.7	13.6	13.4	13.2	13.2	13.0	12.9	12.8	12.8	12.8	12.6	12.2	11.8	11.4	11.2	10.9	10.4	10.0	10.0	9.8	9.8	9.9	10.1	10.2	10.3	10.4	10.7	11.1
15.9	16.0	16.1	16.3	16.5	16.7	16.9	17.0	17.0	16.9	16.9	17.0	16.8	16.6	16.6	16.7	16.9	17.2	17.5	17.5	17.2	17.2	17.7	18.0	17.3	16.9	16.8	15.7	16.6	17.2	17.7	17.8	17.3	16.9	16.2	15.9
18.6	18.7	18.8	18.7	18.8	18.9	18.8	19.1	18.9	19.3	19.1	19.0	19.0	18.8	18.8	19.0	19.3	19.6	19.8	19.8	20.3	21.0	21.9	22.4	22.5	22.3	21.8	21.6	21.0	20.9	20.5	20.2	19.7	19.3	19.1	18.8

Figure 33. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



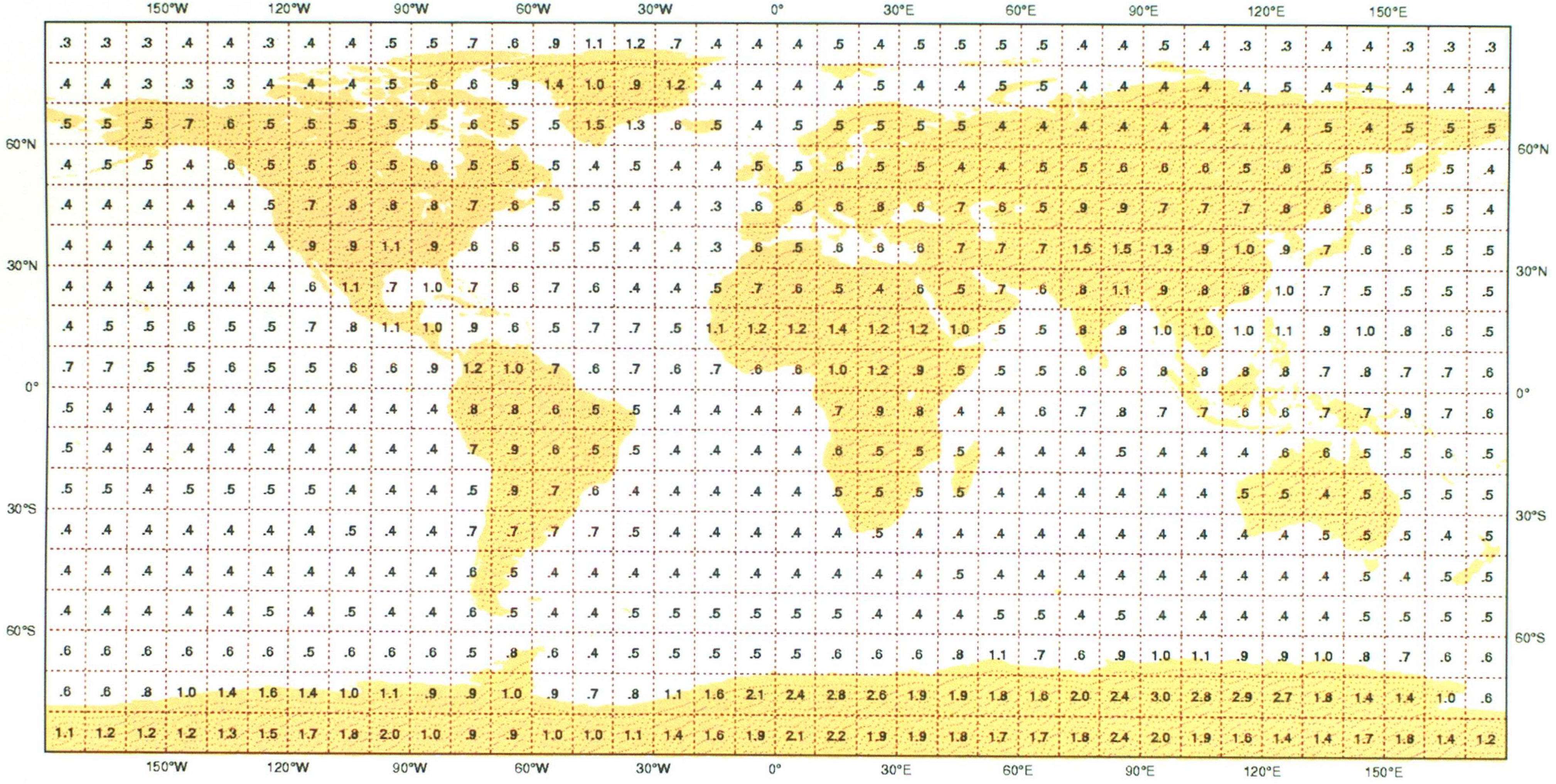
.9	.9	.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.1	1.1	1.0	1.0	.9	.9	.8	.8	.8	.8	.8	.8
1.4	1.3	1.3	1.3	1.4	1.4	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	.9	.9	1.0	1.2	1.4	1.6	1.7	1.8	1.7	1.7	1.6	1.5	1.4	1.3	1.4	1.4	1.4	1.5	1.5	1.4
1.3	1.2	1.1	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.2	1.0	.9	.9	.9	1.1	1.2	1.3	1.3	1.4	1.5	1.5	1.5	1.5	1.6	1.6	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5
1.4	1.3	1.2	1.2	1.1	1.1	1.1	1.2	1.3	1.3	1.4	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.4	1.4	1.4	1.3	1.3	1.3	1.1	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.5
1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.4	1.4	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.5	1.3	1.3	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
1.6	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.7	1.5	1.6	1.8	1.8	2.0	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.8	1.7	1.7	1.6
1.7	1.7	1.8	1.7	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.7
1.9	2.0	1.9	2.0	2.0	1.9	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	2.0
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1.9	1.9	2.0	2.0	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9
1.8	1.8	1.8	1.7	1.7	1.6	1.7	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.8	1.7	1.7	1.7	1.7
1.5	1.6	1.6	1.5	1.5	1.4	1.3	1.5	1.5	1.6	1.7	1.6	1.5	1.6	1.6	1.4	1.4	1.4	1.4	1.3	1.3	1.5	1.4	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.3	1.3	1.4	1.4
2.0	2.2	2.3	2.1	2.2	2.2	2.1	2.0	2.1	2.2	2.4	2.4	2.4	2.3	2.2	2.0	1.9	1.8	1.6	1.5	1.5	1.6	1.6	1.8	1.9	2.0	2.1	2.1	2.1	2.2	2.1	1.9	1.6	1.6	1.8	1.9
2.7	2.9	2.9	2.7	2.8	2.9	2.8	2.8	2.8	2.9	2.9	3.1	3.3	3.3	3.3	3.5	3.4	3.2	3.0	3.2	3.2	3.3	3.4	3.5	3.5	3.8	3.9	3.8	3.9	4.0	3.6	3.2	3.1	2.7	2.8	3.0
2.9	2.7	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.6	2.6	2.8	2.9	2.8	2.6	2.6	2.8	3.0	3.3	3.6	3.9	4.1	4.1	4.3	4.4	4.3	4.2	4.0	3.7	3.5	3.3	3.2	3.0
1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.9	1.9	2.0	2.3	2.4	2.4	2.4	2.3	2.4	2.6	2.4	2.5	2.8	2.3	2.1	2.0	1.8	1.8	1.8
2.1	2.2	2.3	2.3	2.2	2.2	2.0	1.9	2.1	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	1.8	1.5	1.1	1.0	1.0	1.3	1.3	1.3	1.4	1.4	1.4	1.6	1.7	1.8	1.9	2.0

Figure 34. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations



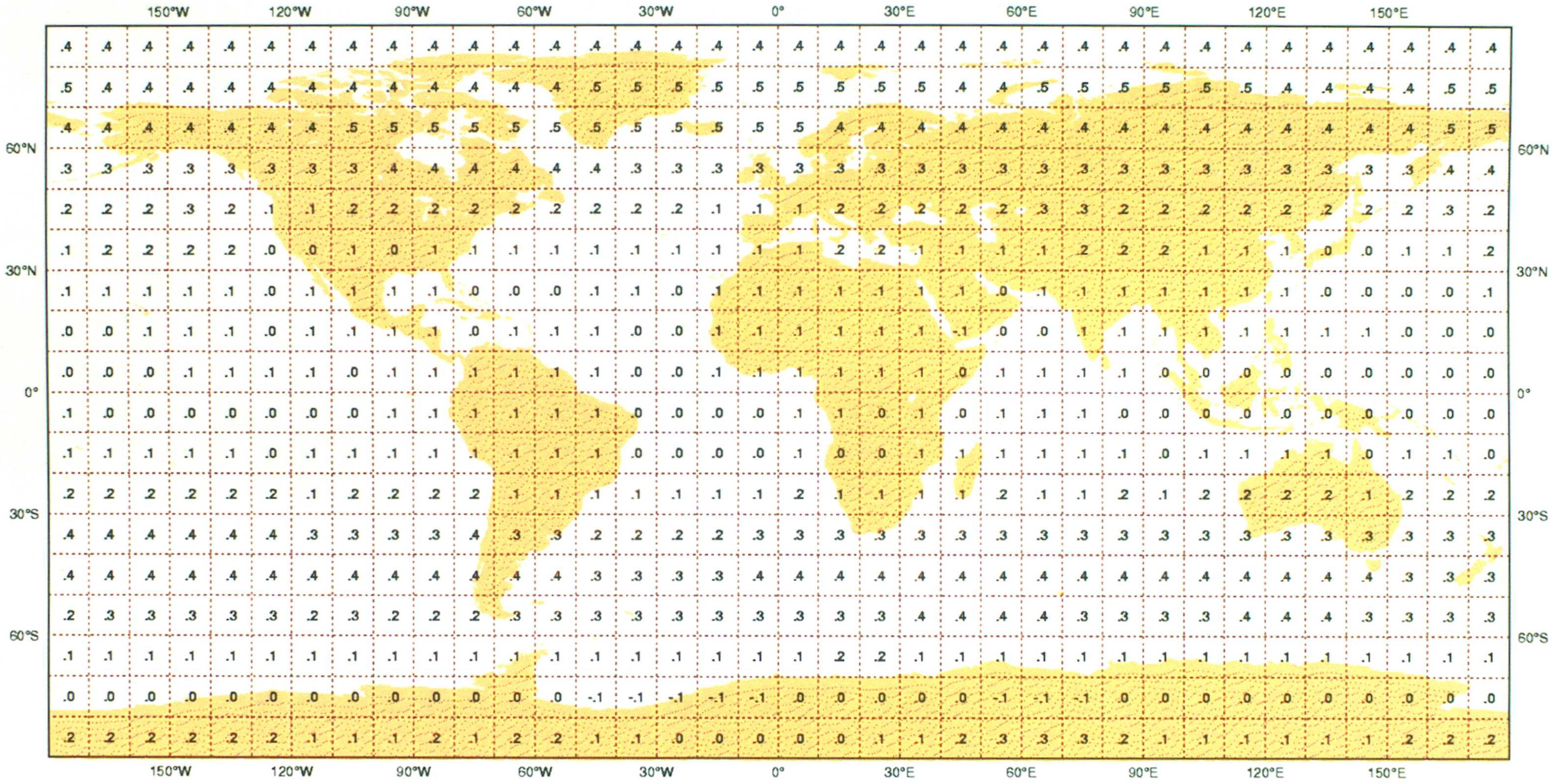
.2	.2	.2	.2	.2	.2	.1	.0	.1	.1	.1	.1	-.2	-.5	-.3	.3	.1	.1	.1	.1	.0	.1	.2	.1	.2	.3	.2	.0	.2	.2	.2	.3	.2	.2	.2	.2
.4	.4	.3	.3	.4	.4	.3	.3	.1	.1	.1	.0	-1.2	-2.3	-2.2	-.4	.3	.4	.4	.3	.3	.5	.5	.4	.5	.5	.4	.2	.2	.3	.4	.5	.3	.3	.3	.4
.4	.1	.2	.3	.2	.1	.0	.0	.1	.2	.3	.3	.4	-1.2	-.3	.3	.3	.4	.3	.1	.1	.1	.2	.3	.3	.2	.2	.3	.4	.3	.2	.2	.3	.2	.2	.3
.4	.3	.2	.3	.4	.0	.0	.0	.1	.3	.1	.0	.3	.4	.4	.3	.3	.1	.2	.1	.1	.1	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.2	.2	.2	.4
.3	.4	.4	.4	.3	.2	.1	.1	.0	-.1	-.1	.0	.1	.3	.3	.3	.3	.3	.2	.0	-.1	.1	.1	.3	.4	.0	-.1	.2	.3	.2	-.1	.0	.1	.1	.2	.3
.2	.2	.2	.3	.3	.2	.0	-.1	-.3	-.3	-.1	.0	.1	.1	.2	.2	.3	.3	.4	.2	.1	.2	.3	.5	.3	-.6	-.9	-.4	-.2	-.4	-.2	-.1	.0	.1	.1	.1
.2	.2	.2	.3	.3	.2	.1	-.4	-.1	-.3	-.2	-.1	.0	.1	.2	.2	.2	.4	.5	.4	.4	.2	.4	.2	.1	-.2	-.6	-.5	-.3	-.2	-.2	-.1	.0	.0	.0	.0
.1	.2	.2	.1	.2	.1	.0	-.3	-.4	-.3	-.2	.0	.1	.1	.0	.1	-.2	-.1	.1	.0	.0	.0	.5	.3	.2	-.2	-.2	-.5	-.6	-.3	-.4	-.3	-.4	-.2	-.1	.0
-.1	.0	.1	.1	.1	.1	.1	.0	.1	-.1	-.5	-.3	-.1	.1	.0	.0	.1	.1	.0	-.4	-.4	.1	.3	.3	.1	.0	.0	-.3	-.2	-.4	-.2	-.3	-.3	-.3	-.3	-.1
.1	.1	.2	.2	.2	.2	.1	.2	.2	.2	-.3	-.3	-.3	.1	.3	.2	.2	.2	.2	-.2	-.3	.3	.2	.2	.1	.0	-.2	-.2	-.1	-.1	-.1	-.2	-.3	-.4	-.2	-.1
.1	.2	.2	.2	.2	.3	.2	.2	.2	.2	.2	-.1	.0	.3	.2	.3	.3	.3	.3	.2	.2	.3	.2	.3	.3	.3	.2	.2	.2	.2	.3	.4	.2	.1	.1	.0
.3	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.2	.0	.2	.2	.3	.3	.3	.3	.5	.5	.2	.3	.4	.4	.4	.3	.3	.3	.4	.5	.7	.5	.3	.2	.3
.4	.4	.4	.4	.5	.4	.3	.3	.3	.4	.2	.3	.1	.3	.2	.3	.4	.4	.4	.5	.5	.3	.4	.4	.4	.4	.4	.5	.5	.4	.4	.4	.4	.4	.4	.3
.4	.5	.5	.5	.5	.5	.4	.4	.4	.5	.3	.4	.4	.5	.4	.4	.5	.5	.5	.6	.5	.5	.6	.5	.5	.5	.6	.5	.5	.5	.5	.5	.4	.4	.4	.3
.4	.4	.4	.4	.5	.5	.4	.4	.4	.4	.2	.3	.4	.4	.3	.2	.3	.2	.3	.4	.4	.5	.5	.5	.5	.4	.4	.4	.5	.5	.5	.5	.4	.4	.4	.4
.0	.0	.0	-.1	.1	.1	.1	.1	.0	.0	.0	.0	-.1	-.1	-.1	-.2	-.1	.1	.2	.3	.3	.2	.1	-.1	.0	.2	.0	-.1	-.2	.0	.0	-.2	-.1	-.1	-.1	-.1
-.2	-.3	-.2	-.3	-.5	-.5	-.5	-.6	-.6	-.3	-.3	-.4	-.2	-.1	-.2	-.4	-1.0	-1.6	-2.4	-2.6	-2.2	-2.1	-2.8	-2.7	-2.0	-2.1	-2.5	-1.8	-2.5	-3.1	-3.7	-2.9	-2.2	-1.7	-.3	-.1
-1.1	-1.2	-1.2	-.8	-.9	-1.2	-1.5	-1.8	-1.7	-.3	-.4	-.9	-1.2	-1.1	-1.4	-1.8	-2.4	-3.2	-3.6	-4.1	-4.2	-4.6	-4.7	-4.7	-4.8	-5.0	-6.0	-6.2	-6.2	-5.3	-5.0	-4.4	-3.8	-1.8	-1.3	-1.3

Figure 35. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations



.3	.3	.3	.4	.4	.3	.4	.4	.5	.5	.7	.6	.9	1.1	1.2	.7	.4	.4	.4	.5	.4	.5	.5	.5	.5	.4	.4	.5	.4	.3	.3	.4	.4	.3	.3	.3
.4	.4	.3	.3	.3	.4	.4	.4	.5	.6	.6	.9	1.4	1.0	.9	1.2	.4	.4	.4	.4	.5	.4	.4	.5	.5	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4
.5	.5	.5	.7	.6	.5	.5	.5	.5	.5	.6	.5	.5	1.5	1.3	.6	.5	.4	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.5	.5	.5
.4	.5	.5	.4	.6	.5	.5	.6	.5	.6	.5	.5	.5	.4	.5	.4	.4	.5	.5	.6	.5	.5	.4	.4	.5	.5	.6	.6	.6	.5	.6	.5	.5	.5	.5	.4
.4	.4	.4	.4	.4	.5	.7	.8	.8	.8	.7	.6	.5	.5	.4	.4	.3	.6	.6	.6	.8	.6	.7	.6	.5	.9	.9	.7	.7	.7	.8	.6	.6	.5	.5	.4
.4	.4	.4	.4	.4	.4	.9	.9	1.1	.9	.6	.6	.5	.5	.4	.4	.3	.6	.5	.6	.6	.6	.7	.7	.7	1.5	1.5	1.3	.9	1.0	.9	.7	.6	.6	.5	.5
.4	.4	.4	.4	.4	.4	.6	1.1	.7	1.0	.7	.6	.7	.6	.4	.4	.5	.7	.6	.5	.4	.6	.5	.7	.6	.8	1.1	.9	.8	.8	1.0	.7	.5	.5	.5	.5
.4	.5	.5	.6	.5	.5	.7	.8	1.1	1.0	.9	.6	.5	.7	.7	.5	1.1	1.2	1.2	1.4	1.2	1.2	1.0	.5	.5	.8	.8	1.0	1.0	1.0	1.1	.9	1.0	.8	.6	.5
.7	.7	.5	.5	.6	.5	.5	.6	.6	.9	1.2	1.0	.7	.6	.7	.6	.7	.6	.6	1.0	1.2	.9	.5	.5	.5	.6	.6	.8	.8	.8	.8	.7	.8	.7	.7	.6
.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.8	.8	.6	.5	.5	.4	.4	.4	.4	.7	.9	.8	.4	.4	.6	.7	.8	.7	.7	.6	.6	.7	.7	.9	.7	.6
.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.7	.9	.6	.5	.5	.4	.4	.4	.4	.6	.5	.5	.5	.4	.4	.4	.5	.4	.4	.4	.6	.6	.5	.5	.6	.5
.5	.5	.4	.5	.5	.5	.5	.4	.4	.4	.5	.9	.7	.6	.4	.4	.4	.4	.4	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.5	.5	.4	.5	.5	.5	.5
.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.7	.7	.7	.7	.5	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.4	.5
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.6	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.5	.5
.4	.4	.4	.4	.4	.5	.4	.5	.4	.4	.6	.5	.4	.4	.5	.5	.5	.5	.5	.5	.4	.4	.4	.5	.5	.4	.5	.4	.4	.4	.4	.4	.5	.5	.5	.5
.6	.6	.6	.6	.6	.6	.5	.6	.6	.6	.5	.8	.6	.4	.5	.5	.5	.5	.5	.6	.6	.6	.8	1.1	.7	.6	.9	1.0	1.1	.9	.9	1.0	.8	.7	.6	.6
.6	.6	.8	1.0	1.4	1.6	1.4	1.0	1.1	.9	.9	1.0	.9	.7	.8	1.1	1.6	2.1	2.4	2.8	2.6	1.9	1.9	1.8	1.6	2.0	2.4	3.0	2.8	2.9	2.7	1.8	1.4	1.4	1.0	.6
1.1	1.2	1.2	1.2	1.3	1.5	1.7	1.8	2.0	1.0	.9	.9	1.0	1.0	1.1	1.4	1.6	1.9	2.1	2.2	1.9	1.9	1.8	1.7	1.7	1.8	2.4	2.0	1.9	1.6	1.4	1.4	1.7	1.8	1.4	1.2

Figure 36. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations



.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.5	.5
.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5
.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4
.2	.2	.2	.3	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.2	.2	.2	.2	.2	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.3	.2
.1	.2	.2	.2	.2	.0	.0	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.1	.1	.1	.1	.2	.2	.2	.1	.1	.1	.0	.0	.1	.1	.2
.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.0	.0	.0	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.1
.0	.0	.1	.1	.1	.0	.1	.1	.1	.1	.0	.1	.1	.1	.0	.0	.1	.1	.1	.1	.1	.1	-.1	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0
.0	.0	.0	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.0	.1	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.1	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.0	.1	.1	.0
.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.2	.1	.1	.2	.1	.2	.2	.2	.2	.1	.2	.2	.2
.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.3	.3	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3
.2	.3	.3	.3	.3	.3	.2	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3
.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.2	.2	.2	.2	.2	.2	.1	.1	.1	.2	.1	.2	.2	.1	.1	.0	.0	.0	.0	.0	.1	.1	.2	.3	.3	.3	.2	.1	.1	.1	.1	.1	.1	.2	.2	.2

Figure 37. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations

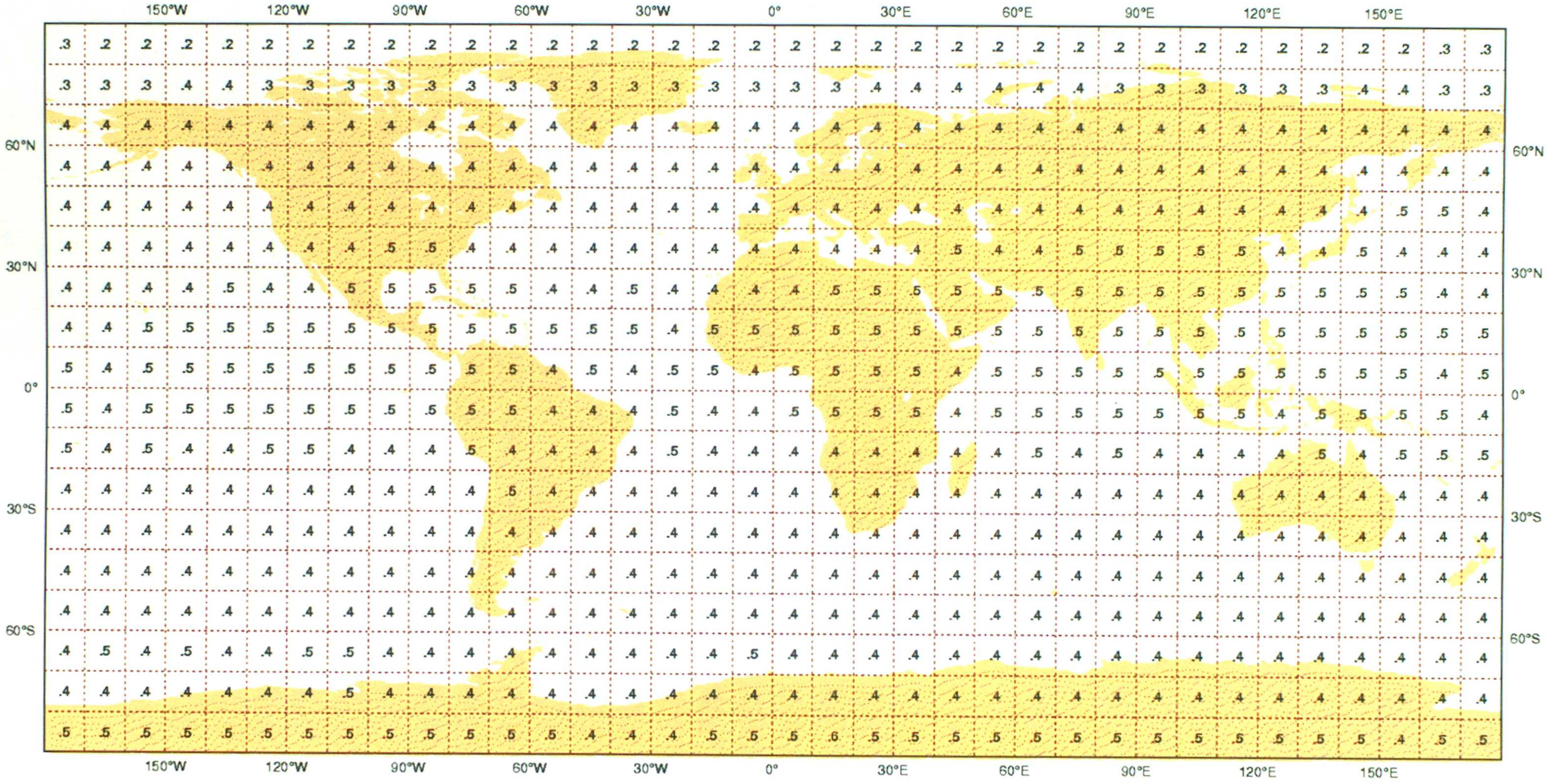
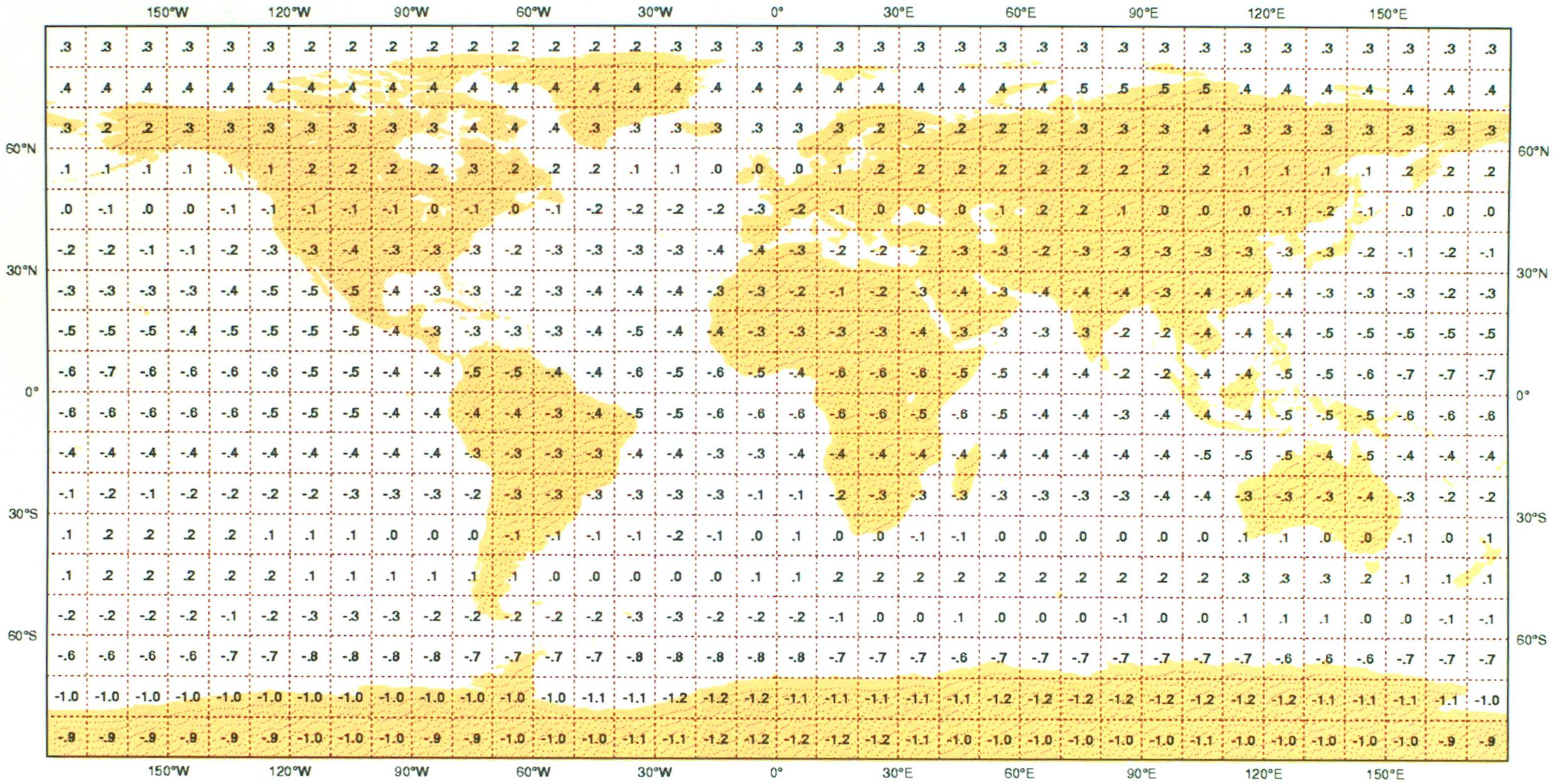
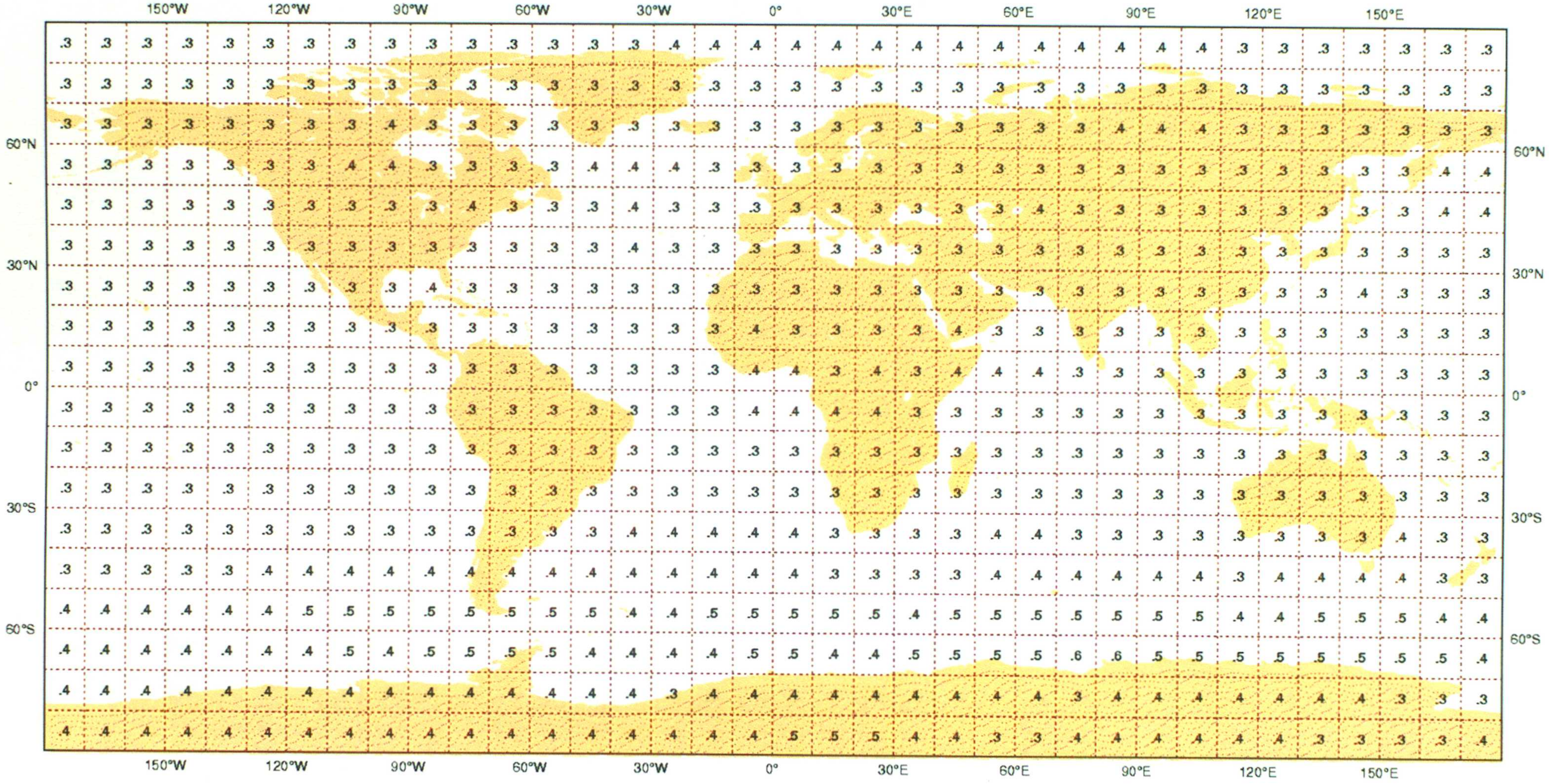

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.3 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .3 .3
.3 .3 .3 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .5 .5 .5 .5 .5 .4 .4 .5 .4 .4 .4
.4 .4 .4 .4 .5 .4 .4 .5 .5 .5 .5 .5 .4 .4 .5 .4 .4 .4 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4 .4
.4 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5
.5 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4 .5 .4 .5 .5 .4 .5 .5 .5 .5 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4 .5
.5 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4 .4 .4 .5 .4 .4 .5 .5 .5 .5 .4 .5 .5 .5 .5 .5 .5 .5 .4 .5 .5 .5 .5 .4
.5 .4 .5 .4 .4 .5 .5 .4 .4 .4 .5 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .5 .4 .4 .4 .4 .5 .4 .5 .5 .5
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .5 .4 .5 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4 .4 .4 .5 .5 .5 .6 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4 .5 .5

Figure 38. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations



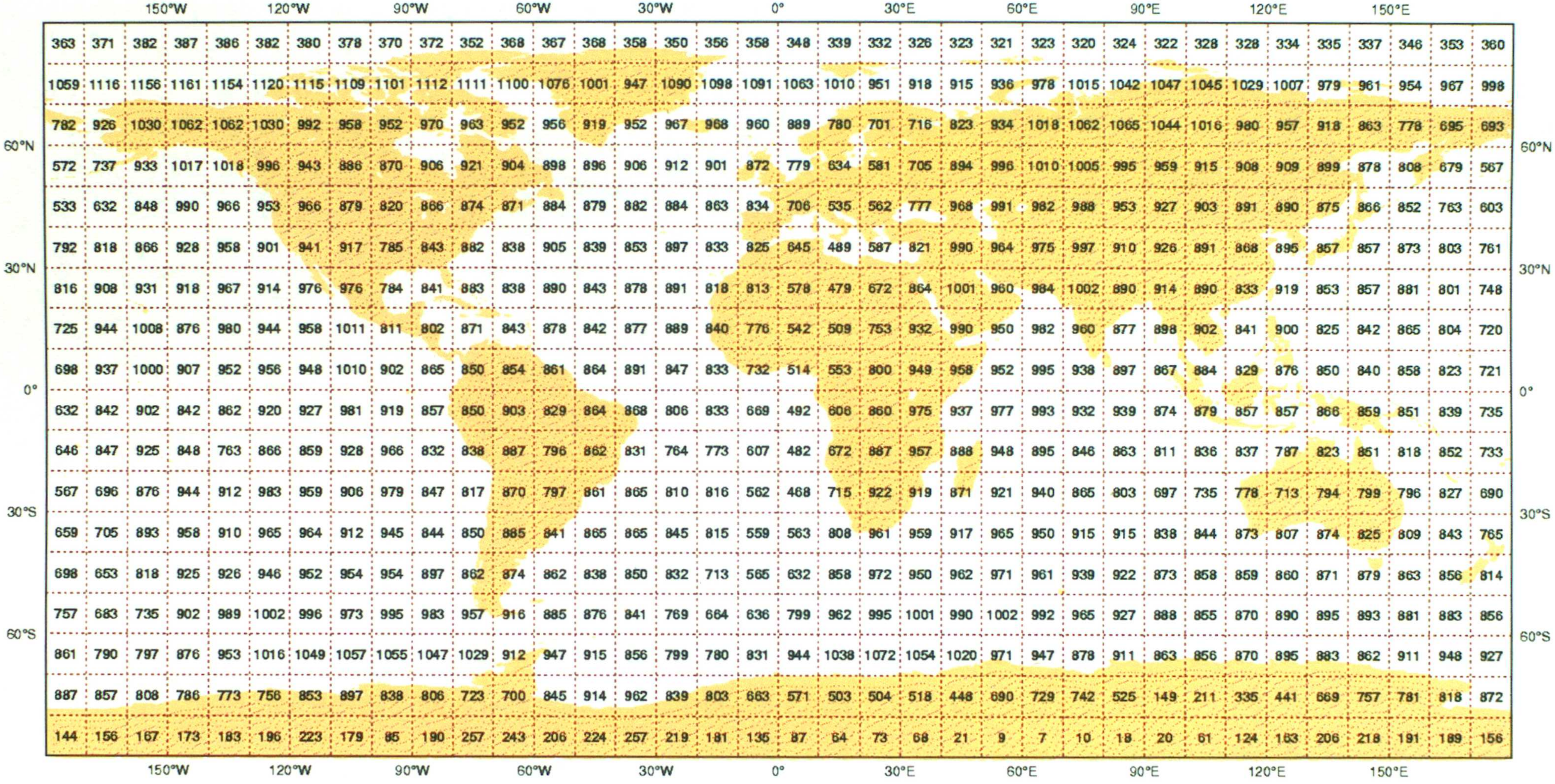
.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4
.3	.2	.2	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3
.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.3	.2	.2	.2	.1	.1	.0	.0	.0	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.2	.2	.2
.0	-.1	.0	.0	-.1	-.1	-.1	-.1	-.1	.0	-.1	.0	-.1	-.2	-.2	-.2	-.2	-.3	-.2	-.1	.0	.0	.0	.1	.2	.2	.1	.0	.0	.0	-.1	-.2	-.1	.0	.0	.0
-.2	-.2	-.1	-.1	-.2	-.3	-.3	-.4	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.3	-.4	-.4	-.3	-.2	-.2	-.2	-.3	-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.1	-.2	-.1
-.3	-.3	-.3	-.3	-.4	-.5	-.5	-.5	-.4	-.3	-.3	-.2	-.3	-.4	-.4	-.4	-.3	-.3	-.2	-.1	-.2	-.3	-.4	-.3	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.3	-.3	-.3	-.2	-.3
-.5	-.5	-.5	-.4	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3	-.4	-.5	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.3	-.3	-.3	-.3	-.2	-.2	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5
-.6	-.7	-.6	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.5	-.5	-.4	-.4	-.6	-.5	-.6	-.5	-.4	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.2	-.2	-.4	-.4	-.5	-.5	-.6	-.7	-.7	-.7
-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.3	-.4	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.6	-.5	-.4	-.4	-.3	-.4	-.4	-.4	-.5	-.5	-.5	-.6	-.6	-.6
-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.5	-.4	-.4	-.4
-.1	-.2	-.1	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.1	-.1	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.3	-.3	-.3	-.4	-.3	-.2	-.2
.1	.2	.2	.2	.2	.1	.1	.1	.0	.0	.0	-.1	-.1	-.1	-.1	-.2	-.1	.0	.1	.0	.0	-.1	-.1	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	-.1	.0	.1
.1	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.2	.1	.1	.1
-.2	-.2	-.2	-.2	-.1	-.2	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.1	.0	.0	.1	.0	.0	.0	-.1	.0	.0	.1	.1	.1	.0	.0	-.1	-.1
-.6	-.6	-.6	-.6	-.7	-.7	-.8	-.8	-.8	-.8	-.7	-.7	-.7	-.7	-.8	-.8	-.8	-.8	-.8	-.7	-.7	-.7	-.6	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.7	-.7	-.7
-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.2	-1.2	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.1	-1.1	-1.1	-1.1	-1.0
-.9	-.9	-.9	-.9	-.9	-.9	-1.0	-1.0	-1.0	-.9	-.9	-1.0	-1.0	-1.0	-1.1	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1.1	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.0	-1.0	-1.0	-1.0	-1.0	-.9	-.9

Figure 39. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations



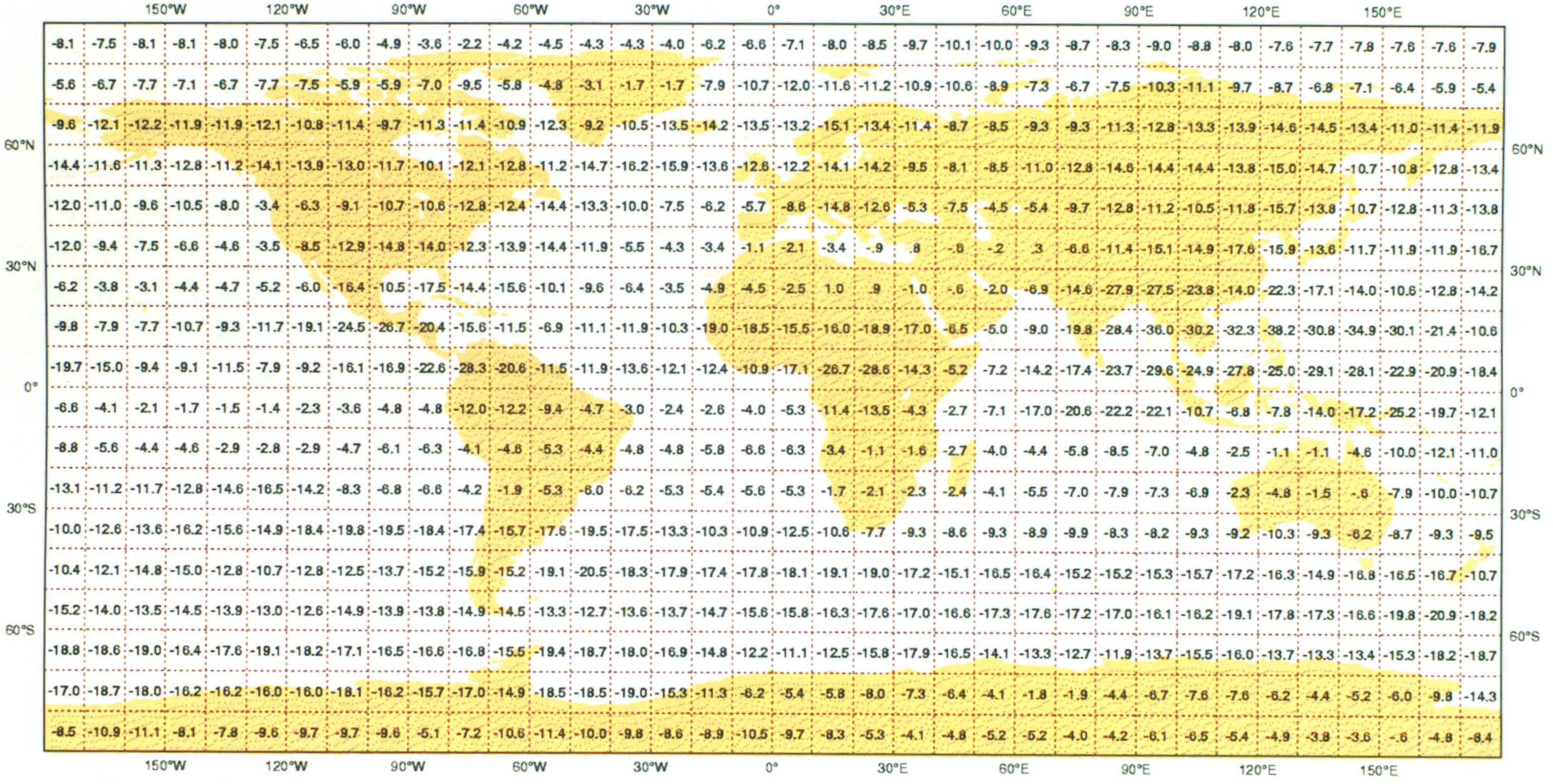
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.4	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3
.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.3	.3
.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.5	.5	.5	.5	.5	.4	.5	.5	.5	.5	.5	.5	.5	.4	.4	.5	.5	.5	.4	.4
.4	.4	.4	.4	.4	.4	.4	.5	.4	.5	.5	.5	.5	.4	.4	.4	.4	.5	.5	.4	.4	.5	.5	.5	.5	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4

Figure 40. ATOVS mean daily count. AUGUST 2005
NOAA16, using all observations
Global average number of observations in 24 hours = 515803



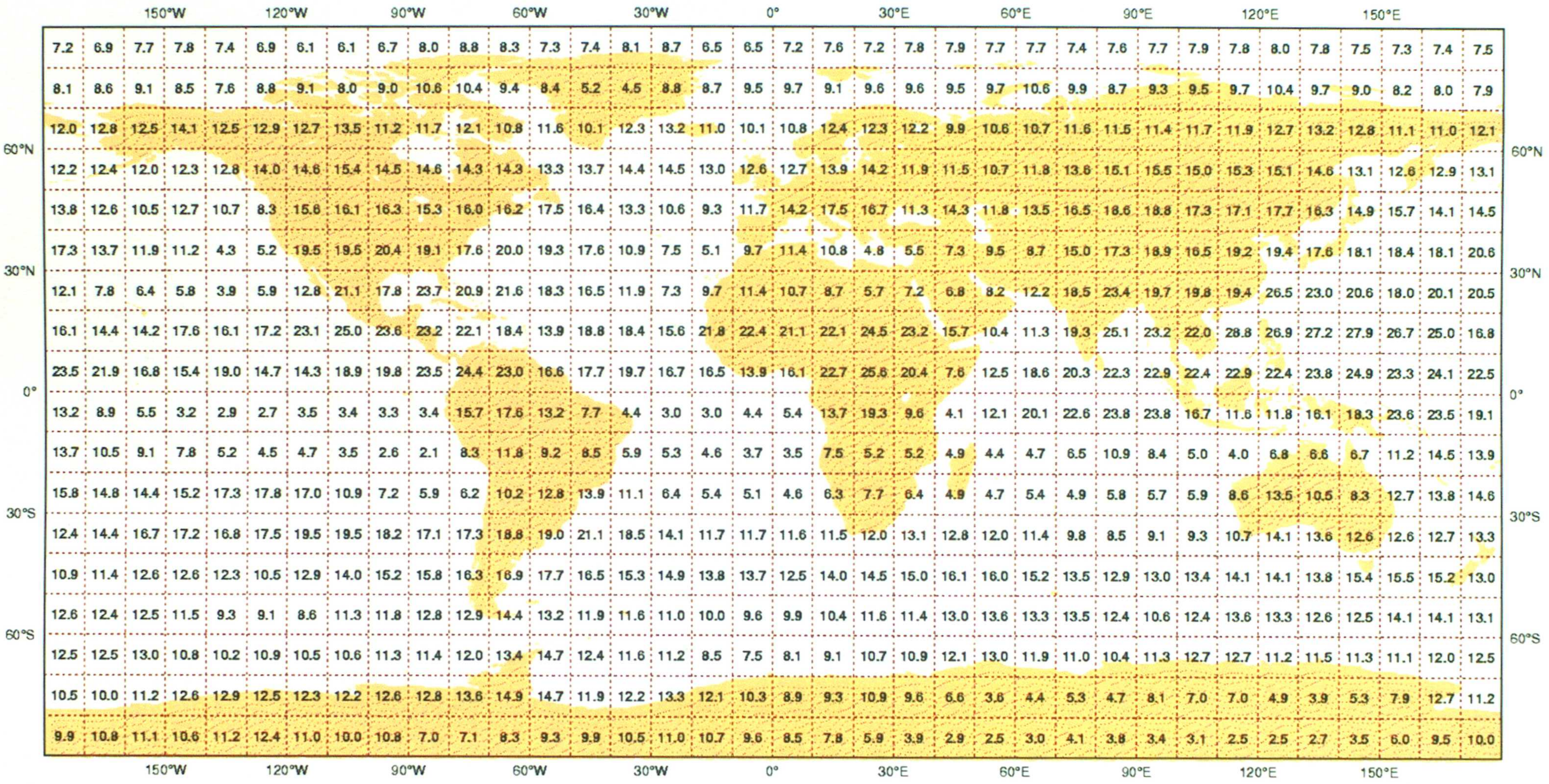
363	371	382	387	386	382	380	378	370	372	352	368	367	368	358	350	356	358	348	339	332	326	323	321	323	320	324	322	328	328	334	335	337	346	353	360
1059	1116	1156	1161	1154	1120	1115	1109	1101	1112	1111	1100	1076	1001	947	1090	1098	1091	1063	1010	951	918	915	936	978	1015	1042	1047	1045	1029	1007	979	961	954	967	998
782	926	1030	1062	1062	1030	992	958	952	970	963	952	956	919	952	967	968	960	889	780	701	716	823	934	1018	1062	1065	1044	1016	980	957	918	863	778	695	693
572	737	933	1017	1018	996	943	886	870	906	921	904	898	896	906	912	901	872	779	634	581	705	894	996	1010	1005	995	959	915	908	909	899	878	808	679	567
533	632	848	990	966	953	966	879	820	866	874	871	884	879	882	884	863	834	706	535	562	777	968	991	982	988	953	927	903	891	890	875	866	852	763	603
792	818	866	928	958	901	941	917	785	843	882	838	905	839	853	897	833	825	645	489	587	821	990	964	975	997	910	926	891	868	895	857	857	873	803	761
816	908	931	918	967	914	976	976	784	841	883	838	890	843	878	891	818	813	578	479	672	864	1001	960	984	1002	890	914	890	833	919	853	857	881	801	748
725	944	1008	876	980	944	958	1011	811	802	871	843	878	842	877	889	840	776	542	509	753	932	990	950	982	960	877	898	902	841	900	825	842	865	804	720
698	937	1000	907	952	956	948	1010	902	865	850	854	861	864	891	847	833	732	514	553	800	949	958	952	995	938	897	867	884	829	876	850	840	858	823	721
632	842	902	842	862	920	927	981	919	857	850	903	829	864	868	806	833	669	492	606	860	975	937	977	993	932	939	874	879	857	857	866	859	851	839	735
646	847	925	848	763	866	859	928	966	832	838	887	796	862	831	764	773	607	482	672	887	957	888	948	895	846	863	811	836	837	787	823	851	818	852	733
567	696	876	944	912	983	959	906	979	847	817	870	797	861	865	810	816	562	468	715	922	919	871	921	940	865	803	697	735	778	713	794	799	796	827	690
659	705	893	958	910	965	964	912	945	844	850	885	841	865	865	845	815	559	563	808	961	959	917	965	950	915	915	838	844	873	807	874	825	809	843	765
698	653	818	925	926	946	952	954	954	897	862	874	862	838	850	832	713	565	632	858	972	950	962	971	961	939	922	873	858	859	860	871	879	863	856	814
757	683	735	902	989	1002	996	973	995	983	957	916	885	876	841	769	664	636	799	962	995	1001	990	1002	992	965	927	888	855	870	890	895	893	881	883	856
861	790	797	876	953	1016	1049	1057	1055	1047	1029	912	947	915	856	799	780	831	944	1038	1072	1054	1020	971	947	878	911	863	856	870	895	883	862	911	948	927
887	857	808	786	773	756	853	897	838	806	723	700	845	914	962	839	803	663	571	503	504	518	448	690	729	742	525	149	211	335	441	669	757	781	818	872
144	156	167	173	183	196	223	179	85	190	257	243	206	224	257	219	181	135	87	64	73	68	21	9	7	10	18	20	61	124	163	206	218	191	189	156

Figure 41. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS8 (Surface)
NOAA16, using all observations



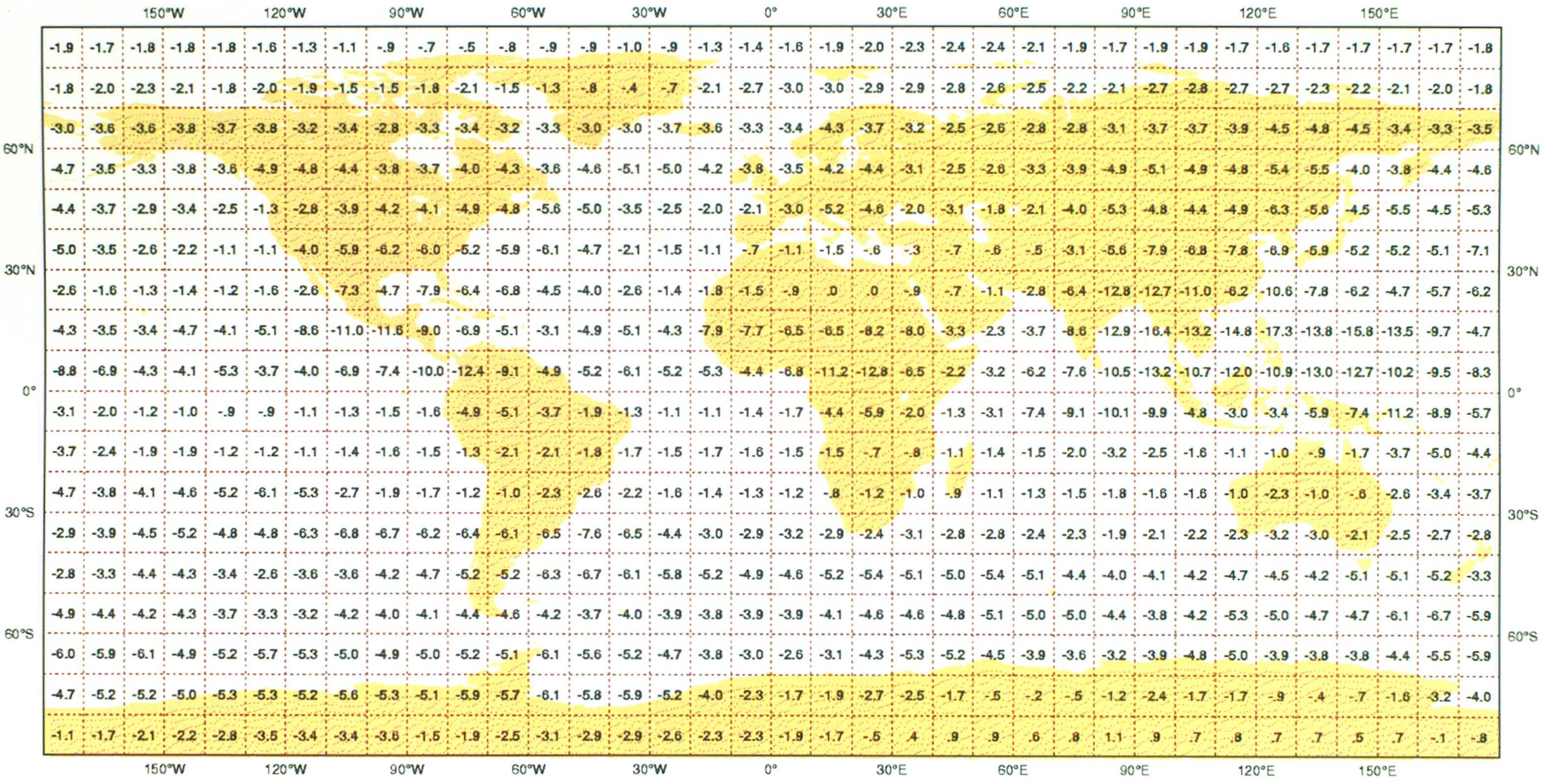
-8.1	-7.5	-8.1	-8.1	-8.0	-7.5	-6.5	-6.0	-4.9	-3.6	-2.2	-4.2	-4.5	-4.3	-4.3	-4.0	-6.2	-6.6	-7.1	-8.0	-8.5	-9.7	-10.1	-10.0	-9.3	-8.7	-8.3	-9.0	-8.8	-8.0	-7.6	-7.7	-7.8	-7.6	-7.6	-7.9
-5.6	-6.7	-7.7	-7.1	-6.7	-7.7	-7.5	-5.9	-5.9	-7.0	-9.5	-5.8	-4.8	-3.1	-1.7	-1.7	-7.9	-10.7	-12.0	-11.6	-11.2	-10.9	-10.6	-8.9	-7.3	-6.7	-7.5	-10.3	-11.1	-9.7	-8.7	-6.8	-7.1	-6.4	-5.9	-5.4
-9.6	-12.1	-12.2	-11.9	-11.9	-12.1	-10.8	-11.4	-9.7	-11.3	-11.4	-10.9	-12.3	-9.2	-10.5	-13.5	-14.2	-13.5	-13.2	-15.1	-13.4	-11.4	-8.7	-8.5	-9.3	-9.3	-11.3	-12.8	-13.3	-13.9	-14.6	-14.5	-13.4	-11.0	-11.4	-11.9
-14.4	-11.6	-11.3	-12.8	-11.2	-14.1	-13.9	-13.0	-11.7	-10.1	-12.1	-12.8	-11.2	-14.7	-16.2	-15.9	-13.6	-12.6	-12.2	-14.1	-14.2	-9.5	-8.1	-8.5	-11.0	-12.8	-14.6	-14.4	-14.4	-13.8	-15.0	-14.7	-10.7	-10.8	-12.8	-13.4
-12.0	-11.0	-9.6	-10.5	-8.0	-3.4	-6.3	-9.1	-10.7	-10.6	-12.8	-12.4	-14.4	-13.3	-10.0	-7.5	-6.2	-5.7	-8.6	-14.8	-12.6	-5.3	-7.5	-4.5	-5.4	-9.7	-12.8	-11.2	-10.5	-11.8	-15.7	-13.8	-10.7	-12.8	-11.3	-13.8
-12.0	-9.4	-7.5	-6.6	-4.6	-3.5	-8.5	-12.9	-14.8	-14.0	-12.3	-13.9	-14.4	-11.9	-5.5	-4.3	-3.4	-1.1	-2.1	-3.4	-.9	.8	-.6	-2	.3	-6.6	-11.4	-15.1	-14.9	-17.6	-15.9	-13.6	-11.7	-11.9	-11.9	-16.7
-6.2	-3.8	-3.1	-4.4	-4.7	-5.2	-6.0	-16.4	-10.5	-17.5	-14.4	-15.6	-10.1	-9.6	-6.4	-3.5	-4.9	-4.5	-2.5	1.0	.9	-1.0	-.6	-2.0	-6.9	-14.6	-27.9	-27.5	-23.8	-14.0	-22.3	-17.1	-14.0	-10.6	-12.8	-14.2
-9.8	-7.9	-7.7	-10.7	-9.3	-11.7	-19.1	-24.5	-26.7	-20.4	-15.6	-11.5	-6.9	-11.1	-11.9	-10.3	-19.0	-18.5	-15.5	-16.0	-18.9	-17.0	-6.5	-5.0	-9.0	-19.8	-28.4	-36.0	-30.2	-32.3	-38.2	-30.8	-34.9	-30.1	-21.4	-10.6
-19.7	-15.0	-9.4	-9.1	-11.5	-7.9	-9.2	-16.1	-16.9	-22.6	-28.3	-20.6	-11.5	-11.9	-13.6	-12.1	-12.4	-10.9	-17.1	-26.7	-28.6	-14.3	-5.2	-7.2	-14.2	-17.4	-23.7	-29.6	-24.9	-27.8	-25.0	-29.1	-28.1	-22.9	-20.9	-18.4
-6.6	-4.1	-2.1	-1.7	-1.5	-1.4	-2.3	-3.6	-4.8	-4.8	-12.0	-12.2	-9.4	-4.7	-3.0	-2.4	-2.6	-4.0	-5.3	-11.4	-13.5	-4.3	-2.7	-7.1	-17.0	-20.6	-22.2	-22.1	-10.7	-6.8	-7.8	-14.0	-17.2	-25.2	-19.7	-12.1
-8.8	-5.6	-4.4	-4.6	-2.9	-2.8	-2.9	-4.7	-6.1	-6.3	-4.1	-4.6	-5.3	-4.4	-4.8	-4.8	-5.8	-6.6	-6.3	-3.4	-1.1	-1.6	-2.7	-4.0	-4.4	-5.8	-8.5	-7.0	-4.8	-2.5	-1.1	-1.1	-4.6	-10.0	-12.1	-11.0
-13.1	-11.2	-11.7	-12.8	-14.6	-16.5	-14.2	-8.3	-6.8	-6.6	-4.2	-1.9	-5.3	-6.0	-6.2	-5.3	-5.4	-5.6	-5.3	-1.7	-2.1	-2.3	-2.4	-4.1	-5.5	-7.0	-7.9	-7.3	-6.9	-2.3	-4.8	-1.5	-.6	-7.9	-10.0	-10.7
-10.0	-12.6	-13.6	-16.2	-15.6	-14.9	-18.4	-19.8	-19.5	-18.4	-17.4	-15.7	-17.6	-19.5	-17.5	-13.3	-10.3	-10.9	-12.5	-10.6	-7.7	-9.3	-8.6	-9.3	-8.9	-9.9	-8.3	-8.2	-9.3	-9.2	-10.3	-9.3	-6.2	-8.7	-9.3	-9.5
-10.4	-12.1	-14.8	-15.0	-12.8	-10.7	-12.8	-12.5	-13.7	-15.2	-15.9	-15.2	-19.1	-20.5	-18.3	-17.9	-17.4	-17.8	-18.1	-19.1	-19.0	-17.2	-15.1	-16.5	-16.4	-15.2	-15.2	-15.3	-15.7	-17.2	-16.3	-14.9	-16.8	-16.5	-16.7	-10.7
-15.2	-14.0	-13.5	-14.5	-13.9	-13.0	-12.6	-14.9	-13.9	-13.8	-14.9	-14.5	-13.3	-12.7	-13.6	-13.7	-14.7	-15.6	-15.8	-16.3	-17.6	-17.0	-16.6	-17.3	-17.6	-17.2	-17.0	-16.1	-16.2	-19.1	-17.8	-17.3	-16.6	-19.8	-20.9	-18.2
-18.8	-18.6	-19.0	-16.4	-17.6	-19.1	-18.2	-17.1	-16.5	-16.6	-16.8	-15.5	-19.4	-18.7	-18.0	-16.9	-14.8	-12.2	-11.1	-12.5	-15.8	-17.9	-16.5	-14.1	-13.3	-12.7	-11.9	-13.7	-15.5	-16.0	-13.7	-13.3	-13.4	-15.3	-18.2	-18.7
-17.0	-18.7	-18.0	-16.2	-16.2	-16.0	-16.0	-18.1	-16.2	-15.7	-17.0	-14.9	-18.5	-18.5	-19.0	-15.3	-11.3	-6.2	-5.4	-5.8	-8.0	-7.3	-6.4	-4.1	-1.8	-1.9	-4.4	-6.7	-7.6	-7.6	-6.2	-4.4	-5.2	-6.0	-9.8	-14.3
-8.5	-10.9	-11.1	-8.1	-7.8	-9.6	-9.7	-9.7	-9.6	-5.1	-7.2	-10.6	-11.4	-10.0	-9.8	-8.6	-8.9	-10.5	-9.7	-8.3	-5.3	-4.1	-4.8	-5.2	-5.2	-4.0	-4.2	-6.1	-6.5	-5.4	-4.9	-3.8	-3.6	-.6	-4.8	-8.4

Figure 42. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS8 (Surface)
NOAA16, using all observations



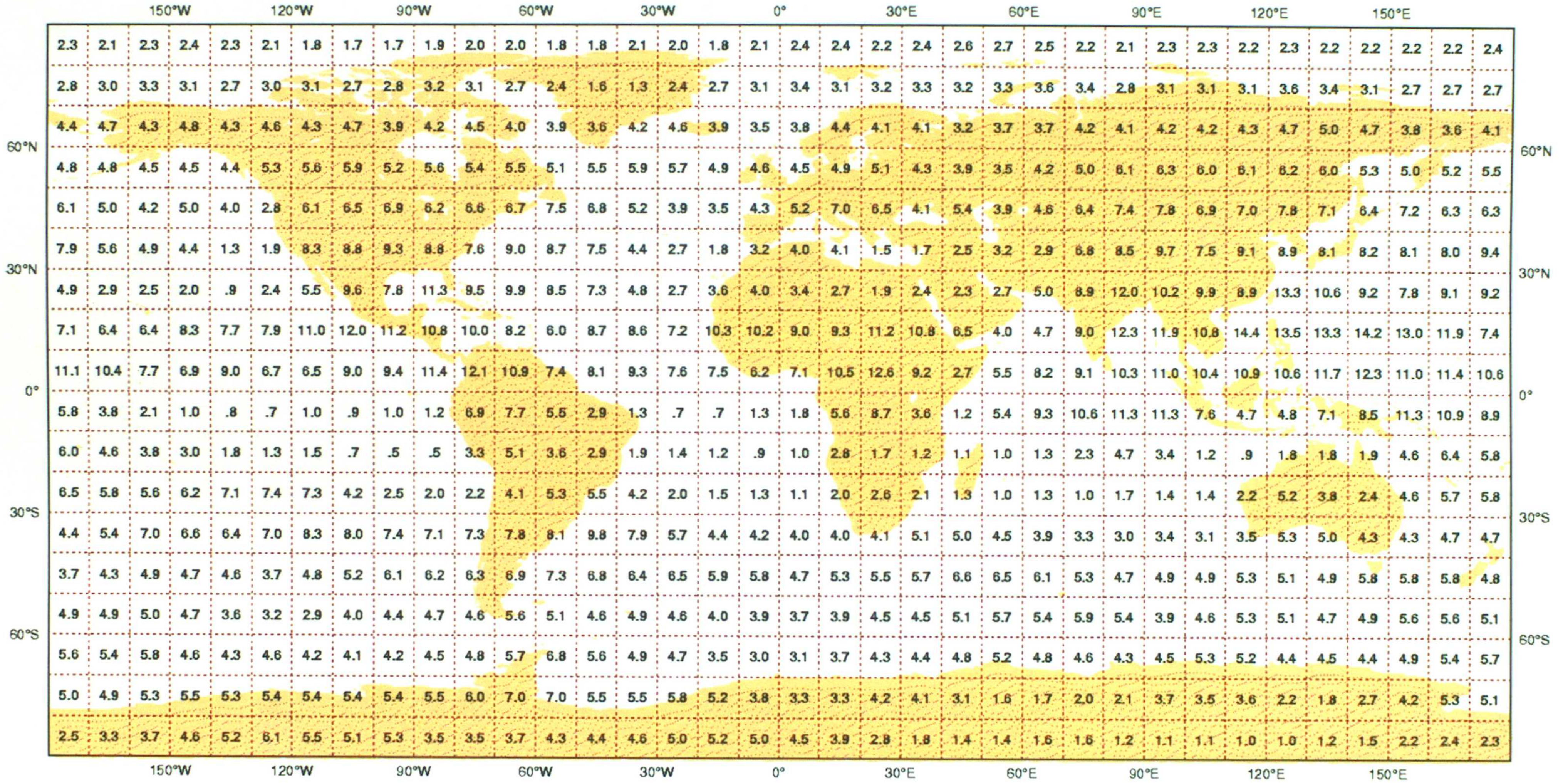
7.2	6.9	7.7	7.8	7.4	6.9	6.1	6.1	6.7	8.0	8.8	8.3	7.3	7.4	8.1	8.7	6.5	6.5	7.2	7.6	7.2	7.8	7.9	7.7	7.7	7.4	7.6	7.7	7.9	7.8	8.0	7.8	7.5	7.3	7.4	7.5
8.1	8.6	9.1	8.5	7.6	8.8	9.1	8.0	9.0	10.6	10.4	9.4	8.4	5.2	4.5	8.8	8.7	9.5	9.7	9.1	9.6	9.6	9.5	9.7	10.6	9.9	8.7	9.3	9.5	9.7	10.4	9.7	9.0	8.2	8.0	7.9
12.0	12.8	12.5	14.1	12.5	12.9	12.7	13.5	11.2	11.7	12.1	10.8	11.6	10.1	12.3	13.2	11.0	10.1	10.8	12.4	12.3	12.2	9.9	10.6	10.7	11.6	11.5	11.4	11.7	11.9	12.7	13.2	12.8	11.1	11.0	12.1
12.2	12.4	12.0	12.3	12.8	14.0	14.6	15.4	14.5	14.6	14.3	14.3	13.3	13.7	14.4	14.5	13.0	12.6	12.7	13.9	14.2	11.9	11.5	10.7	11.8	13.6	15.1	15.5	15.0	15.3	15.1	14.6	13.1	12.6	12.9	13.1
13.8	12.6	10.5	12.7	10.7	8.3	15.6	16.1	16.3	15.3	16.0	16.2	17.5	16.4	13.3	10.6	9.3	11.7	14.2	17.5	16.7	11.3	14.3	11.8	13.5	16.5	18.6	18.8	17.3	17.1	17.7	16.3	14.9	15.7	14.1	14.5
17.3	13.7	11.9	11.2	4.3	5.2	19.5	19.5	20.4	19.1	17.6	20.0	19.3	17.6	10.9	7.5	5.1	9.7	11.4	10.8	4.8	5.5	7.3	9.5	8.7	15.0	17.3	18.9	16.5	19.2	19.4	17.6	18.1	18.4	18.1	20.6
12.1	7.8	6.4	5.8	3.9	5.9	12.8	21.1	17.8	23.7	20.9	21.6	18.3	16.5	11.9	7.3	9.7	11.4	10.7	8.7	5.7	7.2	6.8	8.2	12.2	18.5	23.4	19.7	19.8	19.4	26.5	23.0	20.6	18.0	20.1	20.5
16.1	14.4	14.2	17.6	16.1	17.2	23.1	25.0	23.6	23.2	22.1	18.4	13.9	18.8	18.4	15.6	21.8	22.4	21.1	22.1	24.5	23.2	15.7	10.4	11.3	19.3	25.1	23.2	22.0	28.8	26.9	27.2	27.9	26.7	25.0	16.8
23.5	21.9	16.8	15.4	19.0	14.7	14.3	18.9	19.8	23.5	24.4	23.0	16.6	17.7	19.7	16.7	16.5	13.9	16.1	22.7	25.6	20.4	7.6	12.5	18.6	20.3	22.3	22.9	22.4	22.9	22.4	23.8	24.9	23.3	24.1	22.5
13.2	8.9	5.5	3.2	2.9	2.7	3.5	3.4	3.3	3.4	15.7	17.6	13.2	7.7	4.4	3.0	3.0	4.4	5.4	13.7	19.3	9.6	4.1	12.1	20.1	22.6	23.8	23.8	16.7	11.6	11.8	16.1	18.3	23.6	23.5	19.1
13.7	10.5	9.1	7.8	5.2	4.5	4.7	3.5	2.6	2.1	8.3	11.8	9.2	8.5	5.9	5.3	4.6	3.7	3.5	7.5	5.2	5.2	4.9	4.4	4.7	6.5	10.9	8.4	5.0	4.0	6.8	6.6	6.7	11.2	14.5	13.9
15.8	14.8	14.4	15.2	17.3	17.8	17.0	10.9	7.2	5.9	6.2	10.2	12.8	13.9	11.1	6.4	5.4	5.1	4.6	6.3	7.7	6.4	4.9	4.7	5.4	4.9	5.8	5.7	5.9	8.6	13.5	10.5	8.3	12.7	13.8	14.6
12.4	14.4	16.7	17.2	16.8	17.5	19.5	19.5	18.2	17.1	17.3	18.8	19.0	21.1	18.5	14.1	11.7	11.7	11.6	11.5	12.0	13.1	12.8	12.0	11.4	9.8	8.5	9.1	9.3	10.7	14.1	13.6	12.6	12.6	12.7	13.3
10.9	11.4	12.6	12.6	12.3	10.5	12.9	14.0	15.2	15.8	16.3	16.9	17.7	16.5	15.3	14.9	13.8	13.7	12.5	14.0	14.5	15.0	16.1	16.0	15.2	13.5	12.9	13.0	13.4	14.1	14.1	13.8	15.4	15.5	15.2	13.0
12.6	12.4	12.5	11.5	9.3	9.1	8.6	11.3	11.8	12.8	12.9	14.4	13.2	11.9	11.6	11.0	10.0	9.6	9.9	10.4	11.6	11.4	13.0	13.6	13.3	13.5	12.4	10.6	12.4	13.6	13.3	12.6	12.5	14.1	14.1	13.1
12.5	12.5	13.0	10.8	10.2	10.9	10.5	10.6	11.3	11.4	12.0	13.4	14.7	12.4	11.6	11.2	8.5	7.5	8.1	9.1	10.7	10.9	12.1	13.0	11.9	11.0	10.4	11.3	12.7	12.7	11.2	11.5	11.3	11.1	12.0	12.5
10.5	10.0	11.2	12.6	12.9	12.5	12.3	12.2	12.6	12.8	13.6	14.9	14.7	11.9	12.2	13.3	12.1	10.3	8.9	9.3	10.9	9.6	6.6	3.6	4.4	5.3	4.7	8.1	7.0	7.0	4.9	3.9	5.3	7.9	12.7	11.2
9.9	10.8	11.1	10.6	11.2	12.4	11.0	10.0	10.8	7.0	7.1	8.3	9.3	9.9	10.5	11.0	10.7	9.6	8.5	7.8	5.9	3.9	2.9	2.5	3.0	4.1	3.8	3.4	3.1	2.5	2.5	2.7	3.5	6.0	9.5	10.0

Figure 43. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS15 (700 hPa)
NOAA16, using all observations



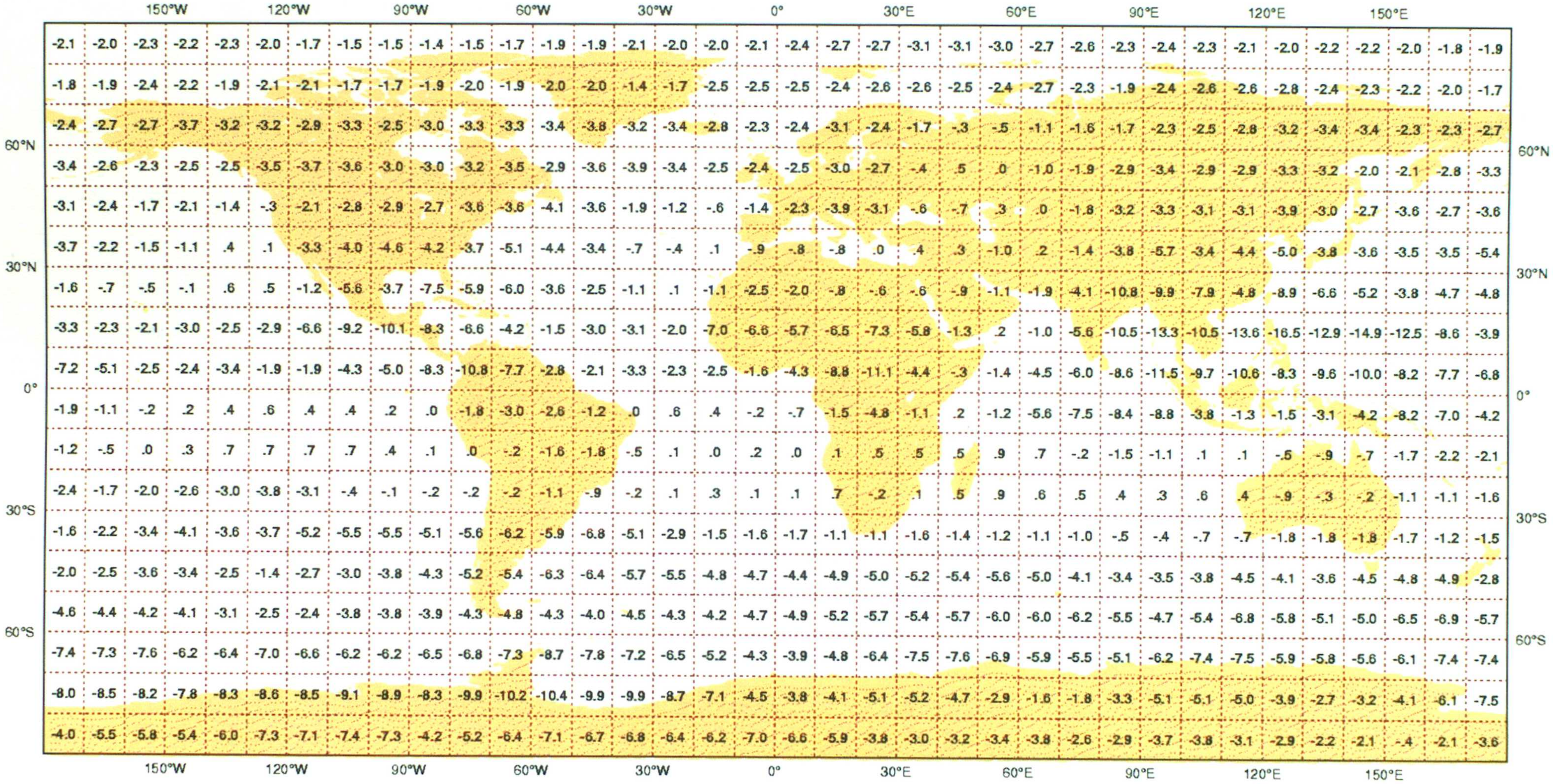
-1.9	-1.7	-1.8	-1.8	-1.8	-1.6	-1.3	-1.1	-.9	-.7	-.5	-.8	-.9	-.9	-1.0	-.9	-1.3	-1.4	-1.6	-1.9	-2.0	-2.3	-2.4	-2.4	-2.1	-1.9	-1.7	-1.9	-1.9	-1.7	-1.6	-1.7	-1.7	-1.7	-1.7	-1.8
-1.8	-2.0	-2.3	-2.1	-1.8	-2.0	-1.9	-1.5	-1.5	-1.8	-2.1	-1.5	-1.3	-.8	-.4	-.7	-2.1	-2.7	-3.0	-3.0	-2.9	-2.9	-2.8	-2.6	-2.5	-2.2	-2.1	-2.7	-2.8	-2.7	-2.7	-2.3	-2.2	-2.1	-2.0	-1.8
-3.0	-3.6	-3.6	-3.8	-3.7	-3.8	-3.2	-3.4	-2.8	-3.3	-3.4	-3.2	-3.3	-3.0	-3.0	-3.7	-3.6	-3.3	-3.4	-4.3	-3.7	-3.2	-2.5	-2.6	-2.8	-2.8	-3.1	-3.7	-3.7	-3.9	-4.5	-4.8	-4.5	-3.4	-3.3	-3.5
-4.7	-3.5	-3.3	-3.8	-3.6	-4.9	-4.8	-4.4	-3.8	-3.7	-4.0	-4.3	-3.6	-4.6	-5.1	-5.0	-4.2	-3.8	-3.5	-4.2	-4.4	-3.1	-2.5	-2.6	-3.3	-3.9	-4.9	-5.1	-4.9	-4.8	-5.4	-5.5	-4.0	-3.8	-4.4	-4.6
-4.4	-3.7	-2.9	-3.4	-2.5	-1.3	-2.8	-3.9	-4.2	-4.1	-4.9	-4.8	-5.6	-5.0	-3.5	-2.5	-2.0	-2.1	-3.0	-5.2	-4.6	-2.0	-3.1	-1.8	-2.1	-4.0	-5.3	-4.8	-4.4	-4.9	-6.3	-5.6	-4.5	-5.5	-4.5	-5.3
-5.0	-3.5	-2.6	-2.2	-1.1	-1.1	-4.0	-5.9	-6.2	-6.0	-5.2	-5.9	-6.1	-4.7	-2.1	-1.5	-1.1	-.7	-1.1	-1.5	-.6	-.3	-.7	-.6	-.5	-3.1	-5.6	-7.9	-6.8	-7.8	-6.9	-5.9	-5.2	-5.2	-5.1	-7.1
-2.6	-1.6	-1.3	-1.4	-1.2	-1.6	-2.6	-7.3	-4.7	-7.9	-6.4	-6.8	-4.5	-4.0	-2.6	-1.4	-1.8	-1.5	-.9	.0	.0	-.9	-.7	-1.1	-2.8	-6.4	-12.8	-12.7	-11.0	-6.2	-10.6	-7.8	-6.2	-4.7	-5.7	-6.2
-4.3	-3.5	-3.4	-4.7	-4.1	-5.1	-8.6	-11.0	-11.6	-9.0	-6.9	-5.1	-3.1	-4.9	-5.1	-4.3	-7.9	-7.7	-6.5	-6.5	-8.2	-8.0	-3.3	-2.3	-3.7	-8.6	-12.9	-16.4	-13.2	-14.8	-17.3	-13.8	-15.8	-13.5	-9.7	-4.7
-8.8	-6.9	-4.3	-4.1	-5.3	-3.7	-4.0	-6.9	-7.4	-10.0	-12.4	-9.1	-4.9	-5.2	-6.1	-5.2	-5.3	-4.4	-6.8	-11.2	-12.8	-6.5	-2.2	-3.2	-6.2	-7.6	-10.5	-13.2	-10.7	-12.0	-10.9	-13.0	-12.7	-10.2	-9.5	-8.3
-3.1	-2.0	-1.2	-1.0	-.9	-.9	-1.1	-1.3	-1.5	-1.6	-4.9	-5.1	-3.7	-1.9	-1.3	-1.1	-1.1	-1.4	-1.7	-4.4	-5.9	-2.0	-1.3	-3.1	-7.4	-9.1	-10.1	-9.9	-4.8	-3.0	-3.4	-5.9	-7.4	-11.2	-8.9	-5.7
-3.7	-2.4	-1.9	-1.9	-1.2	-1.2	-1.1	-1.4	-1.6	-1.5	-1.3	-2.1	-2.1	-1.8	-1.7	-1.5	-1.7	-1.6	-1.5	-1.5	-.7	-.8	-1.1	-1.4	-1.5	-2.0	-3.2	-2.5	-1.6	-1.1	-1.0	-.9	-1.7	-3.7	-5.0	-4.4
-4.7	-3.8	-4.1	-4.6	-5.2	-6.1	-5.3	-2.7	-1.9	-1.7	-1.2	-1.0	-2.3	-2.6	-2.2	-1.6	-1.4	-1.3	-1.2	-.8	-1.2	-1.0	-.9	-1.1	-1.3	-1.5	-1.8	-1.6	-1.6	-1.0	-2.3	-1.0	-.6	-2.6	-3.4	-3.7
-2.9	-3.9	-4.5	-5.2	-4.8	-4.8	-6.3	-6.8	-6.7	-6.2	-6.4	-6.1	-6.5	-7.6	-6.5	-4.4	-3.0	-2.9	-3.2	-2.9	-2.4	-3.1	-2.8	-2.8	-2.4	-2.3	-1.9	-2.1	-2.2	-2.3	-3.2	-3.0	-2.1	-2.5	-2.7	-2.8
-2.8	-3.3	-4.4	-4.3	-3.4	-2.6	-3.6	-3.6	-4.2	-4.7	-5.2	-5.2	-6.3	-6.7	-6.1	-5.8	-5.2	-4.9	-4.6	-5.2	-5.4	-5.1	-5.0	-5.4	-5.1	-4.4	-4.0	-4.1	-4.2	-4.7	-4.5	-4.2	-5.1	-5.1	-5.2	-3.3
-4.9	-4.4	-4.2	-4.3	-3.7	-3.3	-3.2	-4.2	-4.0	-4.1	-4.4	-4.6	-4.2	-3.7	-4.0	-3.9	-3.8	-3.9	-3.9	-4.1	-4.6	-4.6	-4.8	-5.1	-5.0	-5.0	-4.4	-3.8	-4.2	-5.3	-5.0	-4.7	-4.7	-6.1	-6.7	-5.9
-6.0	-5.9	-6.1	-4.9	-5.2	-5.7	-5.3	-5.0	-4.9	-5.0	-5.2	-5.1	-6.1	-5.6	-5.2	-4.7	-3.8	-3.0	-2.6	-3.1	-4.3	-5.3	-5.2	-4.5	-3.9	-3.6	-3.2	-3.9	-4.8	-5.0	-3.9	-3.8	-3.8	-4.4	-5.5	-5.9
-4.7	-5.2	-5.2	-5.0	-5.3	-5.3	-5.2	-5.6	-5.3	-5.1	-5.9	-5.7	-6.1	-5.8	-5.9	-5.2	-4.0	-2.3	-1.7	-1.9	-2.7	-2.5	-1.7	-.5	-.2	-.5	-1.2	-2.4	-1.7	-1.7	-.9	-.4	-.7	-1.6	-3.2	-4.0
-1.1	-1.7	-2.1	-2.2	-2.8	-3.5	-3.4	-3.4	-3.6	-1.5	-1.9	-2.5	-3.1	-2.9	-2.9	-2.6	-2.3	-2.3	-1.9	-1.7	-.5	.4	.9	.9	.6	.8	1.1	.9	.7	.8	.7	.7	.5	.7	-.1	-.8

Figure 44. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS15 (700 hPa)
NOAA16, using all observations



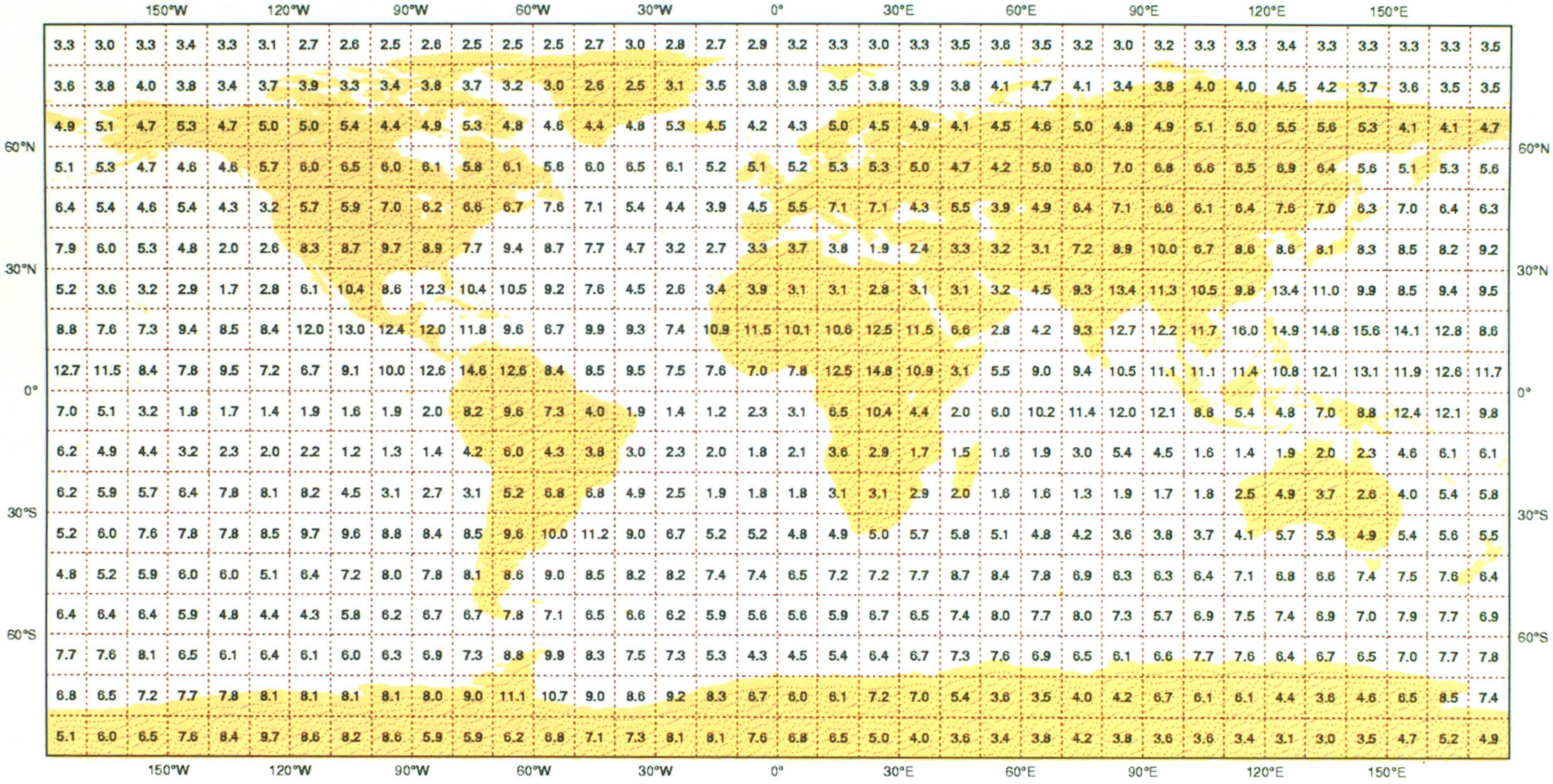
2.3	2.1	2.3	2.4	2.3	2.1	1.8	1.7	1.7	1.9	2.0	2.0	1.8	1.8	2.1	2.0	1.8	2.1	2.4	2.4	2.2	2.4	2.6	2.7	2.5	2.2	2.1	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.4
2.8	3.0	3.3	3.1	2.7	3.0	3.1	2.7	2.8	3.2	3.1	2.7	2.4	1.6	1.3	2.4	2.7	3.1	3.4	3.1	3.2	3.3	3.2	3.3	3.6	3.4	2.8	3.1	3.1	3.1	3.6	3.4	3.1	2.7	2.7	2.7
4.4	4.7	4.3	4.8	4.3	4.6	4.3	4.7	3.9	4.2	4.5	4.0	3.9	3.6	4.2	4.6	3.9	3.5	3.8	4.4	4.1	4.1	3.2	3.7	3.7	4.2	4.1	4.2	4.2	4.3	4.7	5.0	4.7	3.8	3.6	4.1
4.8	4.8	4.5	4.5	4.4	5.3	5.6	5.9	5.2	5.6	5.4	5.5	5.1	5.5	5.9	5.7	4.9	4.6	4.5	4.9	5.1	4.3	3.9	3.5	4.2	5.0	6.1	6.3	6.0	6.1	6.2	6.0	5.3	5.0	5.2	5.5
6.1	5.0	4.2	5.0	4.0	2.8	6.1	6.5	6.9	6.2	6.6	6.7	7.5	6.8	5.2	3.9	3.5	4.3	5.2	7.0	6.5	4.1	5.4	3.9	4.6	6.4	7.4	7.8	6.9	7.0	7.8	7.1	6.4	7.2	6.3	6.3
7.9	5.6	4.9	4.4	1.3	1.9	8.3	8.8	9.3	8.8	7.6	9.0	8.7	7.5	4.4	2.7	1.8	3.2	4.0	4.1	1.5	1.7	2.5	3.2	2.9	6.8	8.5	9.7	7.5	9.1	8.9	8.1	8.2	8.1	8.0	9.4
4.9	2.9	2.5	2.0	.9	2.4	5.5	9.6	7.8	11.3	9.5	9.9	8.5	7.3	4.8	2.7	3.6	4.0	3.4	2.7	1.9	2.4	2.3	2.7	5.0	8.9	12.0	10.2	9.9	8.9	13.3	10.6	9.2	7.8	9.1	9.2
7.1	6.4	6.4	8.3	7.7	7.9	11.0	12.0	11.2	10.8	10.0	8.2	6.0	8.7	8.6	7.2	10.3	10.2	9.0	9.3	11.2	10.8	6.5	4.0	4.7	9.0	12.3	11.9	10.8	14.4	13.5	13.3	14.2	13.0	11.9	7.4
11.1	10.4	7.7	6.9	9.0	6.7	6.5	9.0	9.4	11.4	12.1	10.9	7.4	8.1	9.3	7.6	7.5	6.2	7.1	10.5	12.6	9.2	2.7	5.5	8.2	9.1	10.3	11.0	10.4	10.9	10.6	11.7	12.3	11.0	11.4	10.6
5.8	3.8	2.1	1.0	.8	.7	1.0	.9	1.0	1.2	6.9	7.7	5.5	2.9	1.3	.7	.7	1.3	1.8	5.6	8.7	3.6	1.2	5.4	9.3	10.6	11.3	11.3	7.6	4.7	4.8	7.1	8.5	11.3	10.9	8.9
6.0	4.6	3.8	3.0	1.8	1.3	1.5	.7	.5	.5	3.3	5.1	3.6	2.9	1.9	1.4	1.2	.9	1.0	2.8	1.7	1.2	1.1	1.0	1.3	2.3	4.7	3.4	1.2	.9	1.8	1.8	1.9	4.6	6.4	5.8
6.5	5.8	5.6	6.2	7.1	7.4	7.3	4.2	2.5	2.0	2.2	4.1	5.3	5.5	4.2	2.0	1.5	1.3	1.1	2.0	2.6	2.1	1.3	1.0	1.3	1.0	1.7	1.4	1.4	2.2	5.2	3.8	2.4	4.6	5.7	5.8
4.4	5.4	7.0	6.6	6.4	7.0	8.3	8.0	7.4	7.1	7.3	7.8	8.1	9.8	7.9	5.7	4.4	4.2	4.0	4.0	4.1	5.1	5.0	4.5	3.9	3.3	3.0	3.4	3.1	3.5	5.3	5.0	4.3	4.3	4.7	4.7
3.7	4.3	4.9	4.7	4.6	3.7	4.8	5.2	6.1	6.2	6.3	6.9	7.3	6.8	6.4	6.5	5.9	5.8	4.7	5.3	5.5	5.7	6.6	6.5	6.1	5.3	4.7	4.9	4.9	5.3	5.1	4.9	5.8	5.8	5.8	4.8
4.9	4.9	5.0	4.7	3.6	3.2	2.9	4.0	4.4	4.7	4.6	5.6	5.1	4.6	4.9	4.6	4.0	3.9	3.7	3.9	4.5	4.5	5.1	5.7	5.4	5.9	5.4	3.9	4.6	5.3	5.1	4.7	4.9	5.6	5.6	5.1
5.6	5.4	5.8	4.6	4.3	4.6	4.2	4.1	4.2	4.5	4.8	5.7	6.8	5.6	4.9	4.7	3.5	3.0	3.1	3.7	4.3	4.4	4.8	5.2	4.8	4.6	4.3	4.5	5.3	5.2	4.4	4.5	4.4	4.9	5.4	5.7
5.0	4.9	5.3	5.5	5.3	5.4	5.4	5.4	5.4	5.5	6.0	7.0	7.0	5.5	5.5	5.8	5.2	3.8	3.3	3.3	4.2	4.1	3.1	1.6	1.7	2.0	2.1	3.7	3.5	3.6	2.2	1.8	2.7	4.2	5.3	5.1
2.5	3.3	3.7	4.6	5.2	6.1	5.5	5.1	5.3	3.5	3.5	3.7	4.3	4.4	4.6	5.0	5.2	5.0	4.5	3.9	2.8	1.8	1.4	1.4	1.6	1.6	1.2	1.1	1.1	1.0	1.0	1.2	1.5	2.2	2.4	2.3

Figure 45. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



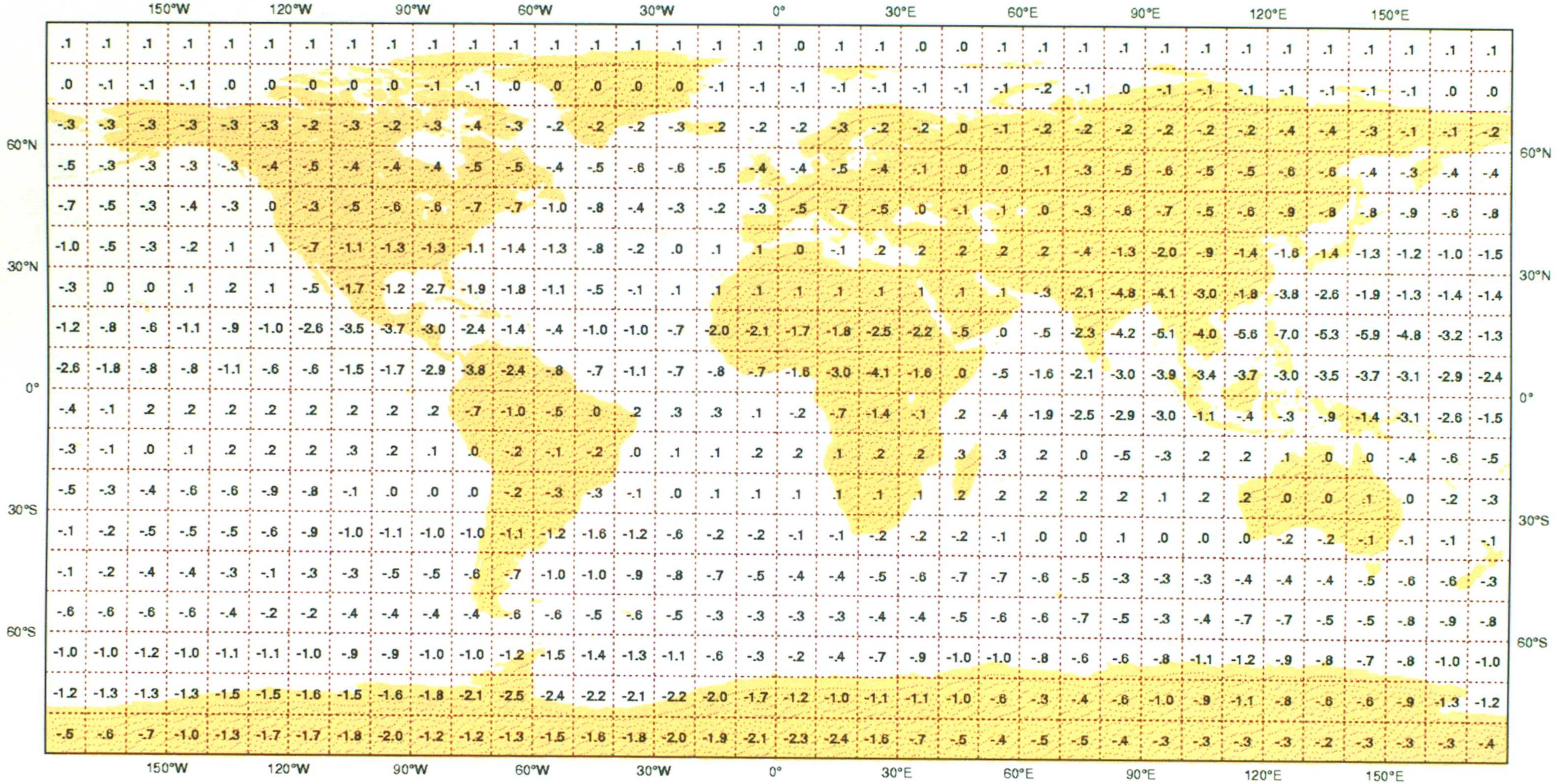
-2.1	-2.0	-2.3	-2.2	-2.3	-2.0	-1.7	-1.5	-1.5	-1.4	-1.5	-1.7	-1.9	-1.9	-2.1	-2.0	-2.0	-2.1	-2.4	-2.7	-2.7	-3.1	-3.1	-3.0	-2.7	-2.6	-2.3	-2.4	-2.3	-2.1	-2.0	-2.2	-2.2	-2.0	-1.8	-1.9
-1.8	-1.9	-2.4	-2.2	-1.9	-2.1	-2.1	-1.7	-1.7	-1.9	-2.0	-1.9	-2.0	-2.0	-1.4	-1.7	-2.5	-2.5	-2.5	-2.4	-2.6	-2.6	-2.5	-2.4	-2.7	-2.3	-1.9	-2.4	-2.6	-2.6	-2.8	-2.4	-2.3	-2.2	-2.0	-1.7
-2.4	-2.7	-2.7	-3.7	-3.2	-3.2	-2.9	-3.3	-2.5	-3.0	-3.3	-3.3	-3.4	-3.8	-3.2	-3.4	-2.8	-2.3	-2.4	-3.1	-2.4	-1.7	-.3	-.5	-1.1	-1.6	-1.7	-2.3	-2.5	-2.8	-3.2	-3.4	-3.4	-2.3	-2.3	-2.7
-3.4	-2.6	-2.3	-2.5	-2.5	-3.5	-3.7	-3.6	-3.0	-3.0	-3.2	-3.5	-2.9	-3.6	-3.9	-3.4	-2.5	-2.4	-2.5	-3.0	-2.7	-.4	.5	.0	-1.0	-1.9	-2.9	-3.4	-2.9	-2.9	-3.3	-3.2	-2.0	-2.1	-2.8	-3.3
-3.1	-2.4	-1.7	-2.1	-1.4	-.3	-2.1	-2.8	-2.9	-2.7	-3.6	-3.6	-4.1	-3.6	-1.9	-1.2	-.6	-1.4	-2.3	-3.9	-3.1	-.6	-.7	.3	.0	-1.8	-3.2	-3.3	-3.1	-3.1	-3.9	-3.0	-2.7	-3.6	-2.7	-3.6
-3.7	-2.2	-1.5	-1.1	.4	.1	-3.3	-4.0	-4.6	-4.2	-3.7	-5.1	-4.4	-3.4	-.7	-.4	.1	-.9	-.8	-.8	.0	.4	.3	-1.0	.2	-1.4	-3.8	-5.7	-3.4	-4.4	-5.0	-3.8	-3.6	-3.5	-3.5	-5.4
-1.6	-.7	-.5	-.1	.6	.5	-1.2	-5.6	-3.7	-7.5	-5.9	-6.0	-3.6	-2.5	-1.1	.1	-1.1	-2.5	-2.0	-.8	-.6	-.6	-.9	-1.1	-1.9	-4.1	-10.8	-9.9	-7.9	-4.8	-8.9	-6.6	-5.2	-3.8	-4.7	-4.8
-3.3	-2.3	-2.1	-3.0	-2.5	-2.9	-6.6	-9.2	-10.1	-8.3	-6.6	-4.2	-1.5	-3.0	-3.1	-2.0	-7.0	-6.6	-5.7	-6.5	-7.3	-5.8	-1.3	.2	-1.0	-5.6	-10.5	-13.3	-10.5	-13.6	-16.5	-12.9	-14.9	-12.5	-8.6	-3.9
-7.2	-5.1	-2.5	-2.4	-3.4	-1.9	-1.9	-4.3	-5.0	-8.3	-10.8	-7.7	-2.8	-2.1	-3.3	-2.3	-2.5	-1.6	-4.3	-8.8	-11.1	-4.4	-.3	-1.4	-4.5	-6.0	-8.6	-11.5	-9.7	-10.6	-8.3	-9.6	-10.0	-8.2	-7.7	-6.8
-1.9	-1.1	-.2	.2	.4	.6	.4	.4	.2	.0	-1.8	-3.0	-2.6	-1.2	.0	.6	.4	-.2	-.7	-1.5	-4.8	-1.1	.2	-1.2	-5.6	-7.5	-8.4	-8.8	-3.8	-1.3	-1.5	-3.1	-4.2	-8.2	-7.0	-4.2
-1.2	-.5	.0	.3	.7	.7	.7	.7	.4	.1	.0	-.2	-1.6	-1.8	-.5	.1	.0	.2	.0	.1	.5	.5	.5	.9	.7	-.2	-1.5	-1.1	.1	.1	-.5	-.9	-.7	-1.7	-2.2	-2.1
-2.4	-1.7	-2.0	-2.6	-3.0	-3.8	-3.1	-.4	-.1	-.2	-.2	-.2	-1.1	-.9	-.2	.1	.3	.1	.1	.7	-.2	.1	.5	.9	.6	.5	.4	.3	.6	.4	-.9	-.3	-.2	-1.1	-1.1	-1.6
-1.6	-2.2	-3.4	-4.1	-3.6	-3.7	-5.2	-5.5	-5.5	-5.1	-5.6	-6.2	-5.9	-6.8	-5.1	-2.9	-1.5	-1.6	-1.7	-1.1	-1.1	-1.6	-1.4	-1.2	-1.1	-1.0	-.5	-.4	-.7	-.7	-1.8	-1.8	-1.8	-1.7	-1.2	-1.5
-2.0	-2.5	-3.6	-3.4	-2.5	-1.4	-2.7	-3.0	-3.8	-4.3	-5.2	-5.4	-6.3	-6.4	-5.7	-5.5	-4.8	-4.7	-4.4	-4.9	-5.0	-5.2	-5.4	-5.6	-5.0	-4.1	-3.4	-3.5	-3.8	-4.5	-4.1	-3.6	-4.5	-4.8	-4.9	-2.8
-4.6	-4.4	-4.2	-4.1	-3.1	-2.5	-2.4	-3.8	-3.8	-3.9	-4.3	-4.8	-4.3	-4.0	-4.5	-4.3	-4.2	-4.7	-4.9	-5.2	-5.7	-5.4	-5.7	-6.0	-6.0	-6.2	-5.5	-4.7	-5.4	-6.8	-5.8	-5.1	-5.0	-6.5	-6.9	-5.7
-7.4	-7.3	-7.6	-6.2	-6.4	-7.0	-6.6	-6.2	-6.2	-6.5	-6.8	-7.3	-8.7	-7.8	-7.2	-6.5	-5.2	-4.3	-3.9	-4.8	-6.4	-7.5	-7.6	-6.9	-5.9	-5.5	-5.1	-6.2	-7.4	-7.5	-5.9	-5.8	-5.6	-6.1	-7.4	-7.4
-8.0	-8.5	-8.2	-7.8	-8.3	-8.6	-8.5	-9.1	-8.9	-8.3	-9.9	-10.2	-10.4	-9.9	-9.9	-8.7	-7.1	-4.5	-3.8	-4.1	-5.1	-5.2	-4.7	-2.9	-1.6	-1.8	-3.3	-5.1	-5.1	-5.0	-3.9	-2.7	-3.2	-4.1	-6.1	-7.5
-4.0	-5.5	-5.8	-5.4	-6.0	-7.3	-7.1	-7.4	-7.3	-4.2	-5.2	-6.4	-7.1	-6.7	-6.8	-6.4	-6.2	-7.0	-6.6	-5.9	-3.8	-3.0	-3.2	-3.4	-3.8	-2.6	-2.9	-3.7	-3.8	-3.1	-2.9	-2.2	-2.1	-.4	-2.1	-3.6

Figure 46. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



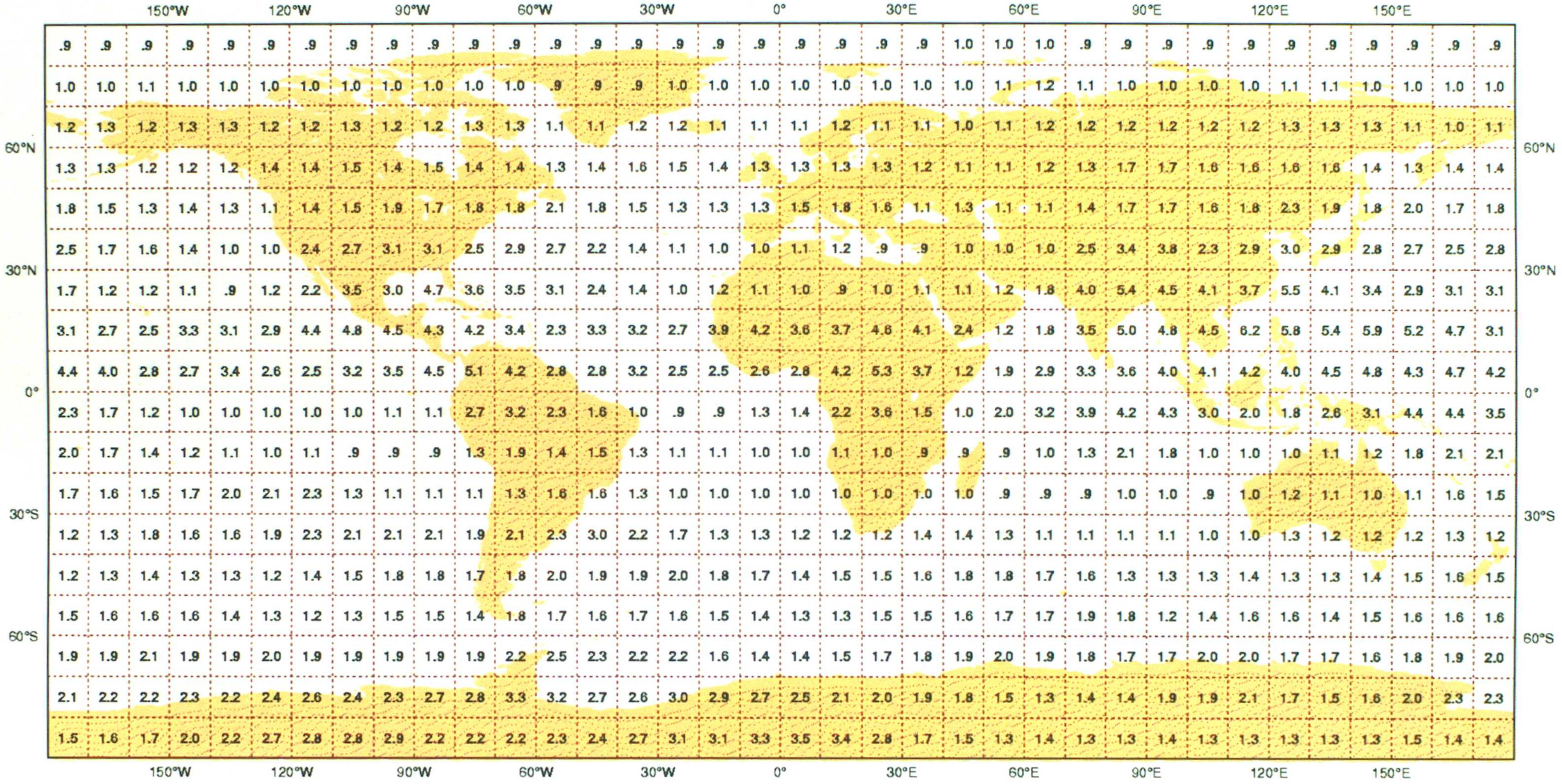
3.3	3.0	3.3	3.4	3.3	3.1	2.7	2.6	2.5	2.6	2.5	2.5	2.5	2.7	3.0	2.8	2.7	2.9	3.2	3.3	3.0	3.3	3.5	3.6	3.5	3.2	3.0	3.2	3.3	3.3	3.4	3.3	3.3	3.3	3.3	3.5
3.6	3.8	4.0	3.8	3.4	3.7	3.9	3.3	3.4	3.8	3.7	3.2	3.0	2.6	2.5	3.1	3.5	3.8	3.9	3.5	3.8	3.9	3.8	4.1	4.7	4.1	3.4	3.8	4.0	4.0	4.5	4.2	3.7	3.6	3.5	3.5
4.9	5.1	4.7	5.3	4.7	5.0	5.0	5.4	4.4	4.9	5.3	4.8	4.6	4.4	4.8	5.3	4.5	4.2	4.3	5.0	4.5	4.9	4.1	4.5	4.6	5.0	4.8	4.9	5.1	5.0	5.5	5.6	5.3	4.1	4.1	4.7
5.1	5.3	4.7	4.6	4.6	5.7	6.0	6.5	6.0	6.1	5.8	6.1	5.6	6.0	6.5	6.1	5.2	5.1	5.2	5.3	5.3	5.0	4.7	4.2	5.0	6.0	7.0	6.8	6.6	6.5	6.9	6.4	5.6	5.1	5.3	5.6
6.4	5.4	4.6	5.4	4.3	3.2	5.7	5.9	7.0	6.2	6.6	6.7	7.6	7.1	5.4	4.4	3.9	4.5	5.5	7.1	7.1	4.3	5.5	3.9	4.9	6.4	7.1	6.6	6.1	6.4	7.6	7.0	6.3	7.0	6.4	6.3
7.9	6.0	5.3	4.8	2.0	2.6	8.3	8.7	9.7	8.9	7.7	9.4	8.7	7.7	4.7	3.2	2.7	3.3	3.7	3.8	1.9	2.4	3.3	3.2	3.1	7.2	8.9	10.0	6.7	8.6	8.6	8.1	8.3	8.5	8.2	9.2
5.2	3.6	3.2	2.9	1.7	2.8	6.1	10.4	8.6	12.3	10.4	10.5	9.2	7.6	4.5	2.6	3.4	3.9	3.1	3.1	2.8	3.1	3.1	3.2	4.5	9.3	13.4	11.3	10.5	9.8	13.4	11.0	9.9	8.5	9.4	9.5
8.8	7.6	7.3	9.4	8.5	8.4	12.0	13.0	12.4	12.0	11.8	9.6	6.7	9.9	9.3	7.4	10.9	11.5	10.1	10.6	12.5	11.5	6.6	2.8	4.2	9.3	12.7	12.2	11.7	16.0	14.9	14.8	15.6	14.1	12.8	8.6
12.7	11.5	8.4	7.8	9.5	7.2	6.7	9.1	10.0	12.6	14.6	12.6	8.4	8.5	9.5	7.5	7.6	7.0	7.8	12.5	14.8	10.9	3.1	5.5	9.0	9.4	10.5	11.1	11.1	11.4	10.8	12.1	13.1	11.9	12.6	11.7
7.0	5.1	3.2	1.8	1.7	1.4	1.9	1.6	1.9	2.0	8.2	9.6	7.3	4.0	1.9	1.4	1.2	2.3	3.1	6.5	10.4	4.4	2.0	6.0	10.2	11.4	12.0	12.1	8.8	5.4	4.8	7.0	8.8	12.4	12.1	9.8
6.2	4.9	4.4	3.2	2.3	2.0	2.2	1.2	1.3	1.4	4.2	6.0	4.3	3.8	3.0	2.3	2.0	1.8	2.1	3.6	2.9	1.7	1.5	1.6	1.9	3.0	5.4	4.5	1.6	1.4	1.9	2.0	2.3	4.6	6.1	6.1
6.2	5.9	5.7	6.4	7.8	8.1	8.2	4.5	3.1	2.7	3.1	5.2	6.8	6.8	4.9	2.5	1.9	1.8	1.8	3.1	3.1	2.9	2.0	1.6	1.6	1.3	1.9	1.7	1.8	2.5	4.9	3.7	2.6	4.0	5.4	5.8
5.2	6.0	7.6	7.8	7.8	8.5	9.7	9.6	8.8	8.4	8.5	9.6	10.0	11.2	9.0	6.7	5.2	5.2	4.8	4.9	5.0	5.7	5.8	5.1	4.8	4.2	3.6	3.8	3.7	4.1	5.7	5.3	4.9	5.4	5.6	5.5
4.8	5.2	5.9	6.0	6.0	5.1	6.4	7.2	8.0	7.8	8.1	8.6	9.0	8.5	8.2	8.2	7.4	7.4	6.5	7.2	7.2	7.7	8.7	8.4	7.8	6.9	6.3	6.3	6.4	7.1	6.8	6.6	7.4	7.5	7.6	6.4
6.4	6.4	6.4	5.9	4.8	4.4	4.3	5.8	6.2	6.7	6.7	7.8	7.1	6.5	6.6	6.2	5.9	5.6	5.6	5.9	6.7	6.5	7.4	8.0	7.7	8.0	7.3	5.7	6.9	7.5	7.4	6.9	7.0	7.9	7.7	6.9
7.7	7.6	8.1	6.5	6.1	6.4	6.1	6.0	6.3	6.9	7.3	8.8	9.9	8.3	7.5	7.3	5.3	4.3	4.5	5.4	6.4	6.7	7.3	7.6	6.9	6.5	6.1	6.6	7.7	7.6	6.4	6.7	6.5	7.0	7.7	7.8
6.8	6.5	7.2	7.7	7.8	8.1	8.1	8.1	8.1	8.0	9.0	11.1	10.7	9.0	8.6	9.2	8.3	6.7	6.0	6.1	7.2	7.0	5.4	3.6	3.5	4.0	4.2	6.7	6.1	6.1	4.4	3.6	4.6	6.5	8.5	7.4
5.1	6.0	6.5	7.6	8.4	9.7	8.6	8.2	8.6	5.9	5.9	6.2	6.8	7.1	7.3	8.1	8.1	7.6	6.8	6.5	5.0	4.0	3.6	3.4	3.8	4.2	3.8	3.6	3.6	3.4	3.1	3.0	3.5	4.7	5.2	4.9

Figure 47. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



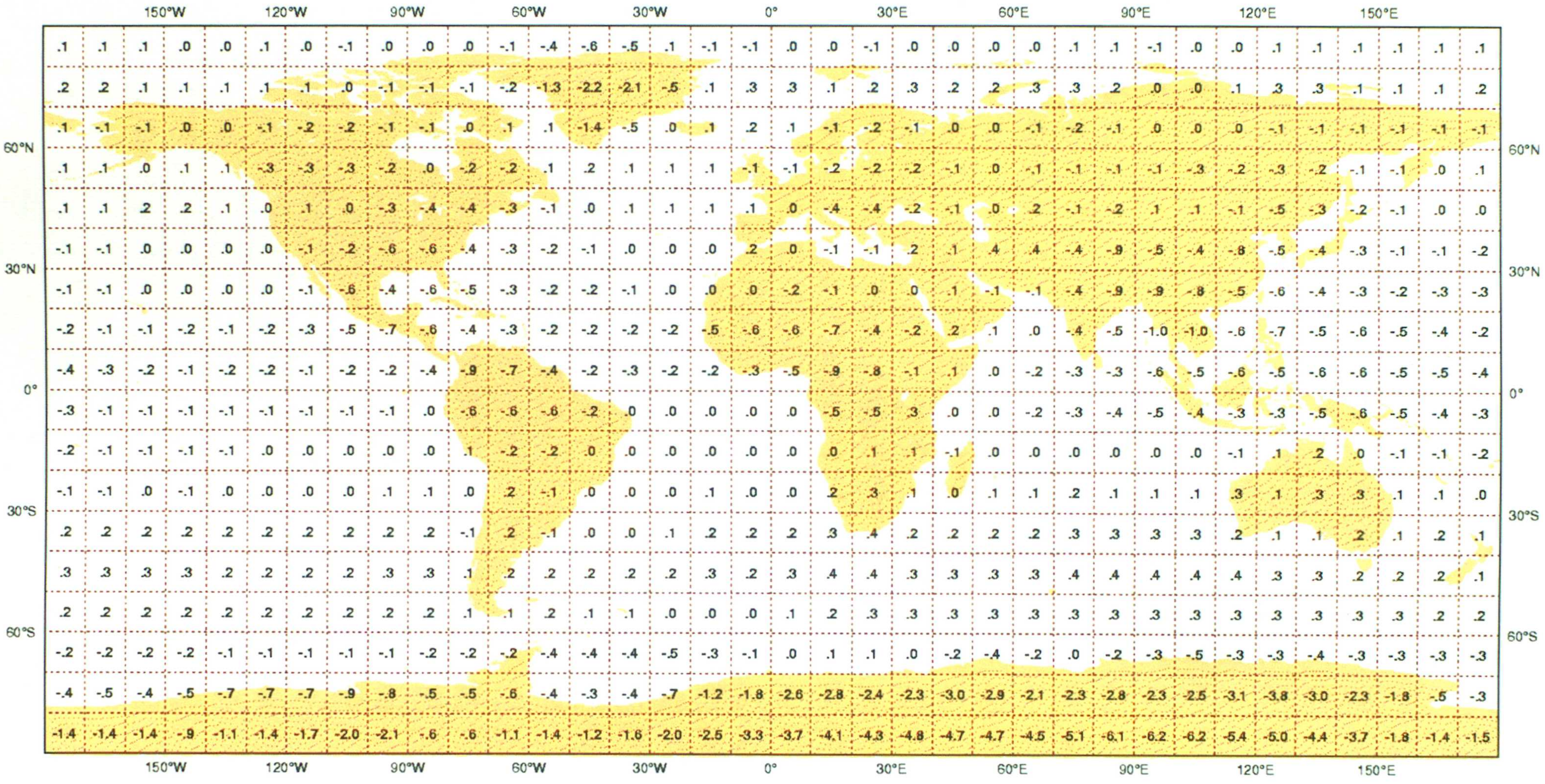
.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
.0	-.1	-.1	-.1	.0	.0	.0	.0	.0	-.1	-.1	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.1	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0
-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.2	-.3	-.4	-.3	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.3	-.2	-.2	.0	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.4	-.4	-.3	-.1	-.1	-.2
-.5	-.3	-.3	-.3	-.3	-.4	-.5	-.4	-.4	-.4	-.5	-.5	-.4	-.5	-.6	-.6	-.5	-.4	-.4	-.5	-.4	-.1	.0	.0	-.1	-.3	-.5	-.6	-.5	-.5	-.6	-.6	-.4	-.3	-.4	-.4
-.7	-.5	-.3	-.4	-.3	.0	-.3	-.5	-.6	-.6	-.7	-.7	-1.0	-.8	-.4	-.3	-.2	-.3	-.5	-.7	-.5	.0	-.1	.1	.0	-.3	-.6	-.7	-.5	-.6	-.9	-.8	-.8	-.9	-.6	-.8
-1.0	-.5	-.3	-.2	.1	.1	-.7	-1.1	-1.3	-1.3	-1.1	-1.4	-1.3	-.8	-.2	.0	.1	.1	.0	-.1	.2	.2	.2	.2	.2	-.4	-1.3	-2.0	-.9	-1.4	-1.6	-1.4	-1.3	-1.2	-1.0	-1.5
-.3	.0	.0	.1	.2	.1	-.5	-1.7	-1.2	-2.7	-1.9	-1.8	-1.1	-.5	-.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	-.3	-2.1	-4.8	-4.1	-3.0	-1.8	-3.8	-2.6	-1.9	-1.3	-1.4	-1.4
-1.2	-.8	-.6	-1.1	-.9	-1.0	-2.6	-3.5	-3.7	-3.0	-2.4	-1.4	-.4	-1.0	-1.0	-.7	-2.0	-2.1	-1.7	-1.8	-2.5	-2.2	-.5	.0	-.5	-2.3	-4.2	-5.1	-4.0	-5.6	-7.0	-5.3	-5.9	-4.8	-3.2	-1.3
-2.6	-1.8	-.8	-.8	-1.1	-.6	-.6	-1.5	-1.7	-2.9	-3.8	-2.4	-.8	-.7	-1.1	-.7	-.8	-.7	-1.6	-3.0	-4.1	-1.6	.0	-.5	-1.6	-2.1	-3.0	-3.9	-3.4	-3.7	-3.0	-3.5	-3.7	-3.1	-2.9	-2.4
-.4	-.1	.2	.2	.2	.2	.2	.2	.2	.2	-.7	-1.0	-.5	.0	.2	.3	.3	.1	-.2	-.7	-1.4	-.1	.2	-.4	-1.9	-2.5	-2.9	-3.0	-1.1	-.4	-.3	-.9	-1.4	-3.1	-2.6	-1.5
-.3	-.1	.0	.1	.2	.2	.2	.3	.2	.1	.0	-.2	-.1	-.2	.0	.1	.1	.2	.2	.1	.2	.2	.3	.3	.2	.0	-.5	-.3	.2	.2	.1	.0	.0	-.4	-.6	-.5
-.5	-.3	-.4	-.6	-.6	-.9	-.8	-.1	.0	.0	.0	-.2	-.3	-.3	-.1	.0	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.1	.2	.2	.0	.0	.1	.0	-.2	-.3
-.1	-.2	-.5	-.5	-.5	-.6	-.9	-1.0	-1.1	-1.0	-1.0	-1.1	-1.2	-1.6	-1.2	-.6	-.2	-.2	-.1	-.1	-.2	-.2	-.2	-.1	.0	.0	.1	.0	.0	.0	-.2	-.2	-.1	-.1	-.1	-.1
-.1	-.2	-.4	-.4	-.3	-.1	-.3	-.3	-.5	-.5	-.6	-.7	-1.0	-1.0	-.9	-.8	-.7	-.5	-.4	-.4	-.5	-.6	-.7	-.7	-.6	-.5	-.3	-.3	-.3	-.4	-.4	-.4	-.5	-.6	-.6	-.3
-.6	-.6	-.6	-.6	-.4	-.2	-.2	-.4	-.4	-.4	-.4	-.6	-.6	-.5	-.6	-.5	-.3	-.3	-.3	-.3	-.4	-.4	-.5	-.6	-.6	-.7	-.5	-.3	-.4	-.7	-.7	-.5	-.5	-.8	-.9	-.8
-1.0	-1.0	-1.2	-1.0	-1.1	-1.1	-1.0	-.9	-.9	-1.0	-1.0	-1.2	-1.5	-1.4	-1.3	-1.1	-.6	-.3	-.2	-.4	-.7	-.9	-1.0	-1.0	-.8	-.6	-.6	-.8	-1.1	-1.2	-.9	-.8	-.7	-.8	-1.0	-1.0
-1.2	-1.3	-1.3	-1.3	-1.5	-1.5	-1.6	-1.5	-1.6	-1.8	-2.1	-2.5	-2.4	-2.2	-2.1	-2.2	-2.0	-1.7	-1.2	-1.0	-1.1	-1.1	-1.0	-.6	-.3	-.4	-.6	-1.0	-.9	-1.1	-.8	-.6	-.6	-.9	-1.3	-1.2
-.5	-.6	-.7	-1.0	-1.3	-1.7	-1.7	-1.8	-2.0	-1.2	-1.2	-1.3	-1.5	-1.6	-1.8	-2.0	-1.9	-2.1	-2.3	-2.4	-1.6	-.7	-.5	-.4	-.5	-.5	-.4	-.3	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.4

Figure 48. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



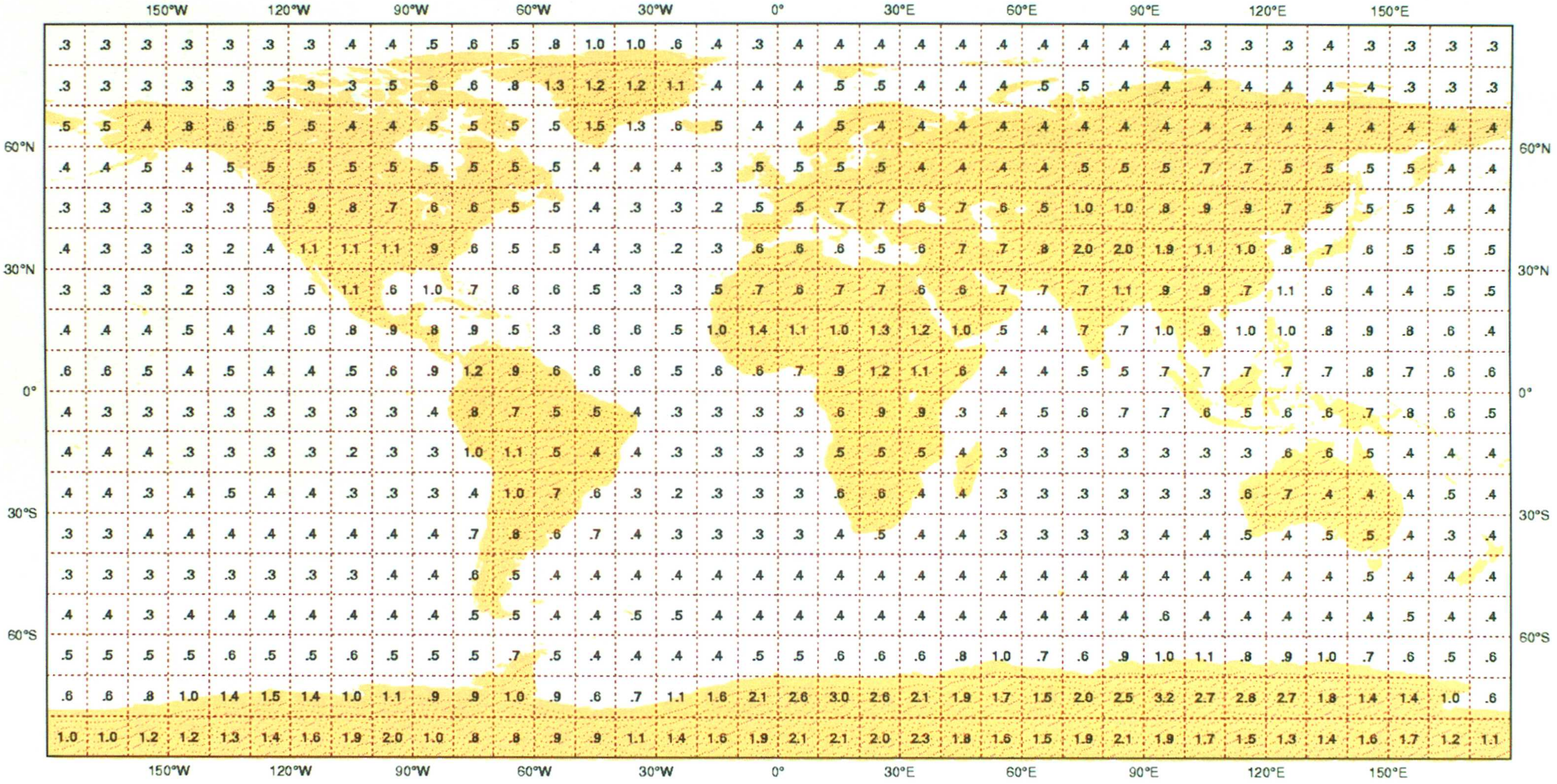
.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	1.0	1.0	1.0	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.2	1.1	1.0	1.0	1.0	1.0	1.1	1.1	1.0	1.0	1.0	1.0
1.2	1.3	1.2	1.3	1.3	1.2	1.2	1.3	1.2	1.2	1.3	1.3	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.2	1.1	1.1	1.0	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.1	1.0	1.1
1.3	1.3	1.2	1.2	1.2	1.4	1.4	1.5	1.4	1.5	1.4	1.4	1.3	1.4	1.6	1.5	1.4	1.3	1.3	1.3	1.3	1.2	1.1	1.1	1.2	1.3	1.7	1.7	1.6	1.6	1.6	1.6	1.4	1.3	1.4	1.4
1.8	1.5	1.3	1.4	1.3	1.1	1.4	1.5	1.9	1.7	1.8	1.8	2.1	1.8	1.5	1.3	1.3	1.3	1.5	1.8	1.6	1.1	1.3	1.1	1.1	1.4	1.7	1.7	1.6	1.8	2.3	1.9	1.8	2.0	1.7	1.8
2.5	1.7	1.6	1.4	1.0	1.0	2.4	2.7	3.1	3.1	2.5	2.9	2.7	2.2	1.4	1.1	1.0	1.0	1.1	1.2	.9	.9	1.0	1.0	1.0	2.5	3.4	3.8	2.3	2.9	3.0	2.9	2.8	2.7	2.5	2.8
1.7	1.2	1.2	1.1	.9	1.2	2.2	3.5	3.0	4.7	3.6	3.5	3.1	2.4	1.4	1.0	1.2	1.1	1.0	.9	1.0	1.1	1.1	1.2	1.8	4.0	5.4	4.5	4.1	3.7	5.5	4.1	3.4	2.9	3.1	3.1
3.1	2.7	2.5	3.3	3.1	2.9	4.4	4.8	4.5	4.3	4.2	3.4	2.3	3.3	3.2	2.7	3.9	4.2	3.6	3.7	4.6	4.1	2.4	1.2	1.8	3.5	5.0	4.8	4.5	6.2	5.8	5.4	5.9	5.2	4.7	3.1
4.4	4.0	2.8	2.7	3.4	2.6	2.5	3.2	3.5	4.5	5.1	4.2	2.8	2.8	3.2	2.5	2.5	2.6	2.8	4.2	5.3	3.7	1.2	1.9	2.9	3.3	3.6	4.0	4.1	4.2	4.0	4.5	4.8	4.3	4.7	4.2
2.3	1.7	1.2	1.0	1.0	1.0	1.0	1.0	1.1	1.1	2.7	3.2	2.3	1.6	1.0	.9	.9	1.3	1.4	2.2	3.6	1.5	1.0	2.0	3.2	3.9	4.2	4.3	3.0	2.0	1.8	2.6	3.1	4.4	4.4	3.5
2.0	1.7	1.4	1.2	1.1	1.0	1.1	.9	.9	.9	1.3	1.9	1.4	1.5	1.3	1.1	1.1	1.0	1.0	1.1	1.0	.9	.9	.9	1.0	1.3	2.1	1.8	1.0	1.0	1.0	1.1	1.2	1.8	2.1	2.1
1.7	1.6	1.5	1.7	2.0	2.1	2.3	1.3	1.1	1.1	1.1	1.3	1.6	1.6	1.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	1.0	1.0	.9	1.0	1.2	1.1	1.0	1.1	1.6	1.5
1.2	1.3	1.8	1.6	1.6	1.9	2.3	2.1	2.1	2.1	1.9	2.1	2.3	3.0	2.2	1.7	1.3	1.3	1.2	1.2	1.2	1.4	1.4	1.3	1.1	1.1	1.1	1.1	1.0	1.0	1.3	1.2	1.2	1.2	1.3	1.2
1.2	1.3	1.4	1.3	1.3	1.2	1.4	1.5	1.8	1.8	1.7	1.8	2.0	1.9	1.9	2.0	1.8	1.7	1.4	1.5	1.5	1.6	1.8	1.8	1.7	1.6	1.3	1.3	1.3	1.4	1.3	1.3	1.4	1.5	1.6	1.5
1.5	1.6	1.6	1.6	1.4	1.3	1.2	1.3	1.5	1.5	1.4	1.8	1.7	1.6	1.7	1.6	1.5	1.4	1.3	1.3	1.5	1.5	1.6	1.7	1.7	1.9	1.8	1.2	1.4	1.6	1.6	1.4	1.5	1.6	1.6	1.6
1.9	1.9	2.1	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.2	2.5	2.3	2.2	2.2	1.6	1.4	1.4	1.5	1.7	1.8	1.9	2.0	1.9	1.8	1.7	1.7	2.0	2.0	1.7	1.7	1.6	1.8	1.9	2.0
2.1	2.2	2.2	2.3	2.2	2.4	2.6	2.4	2.3	2.7	2.8	3.3	3.2	2.7	2.6	3.0	2.9	2.7	2.5	2.1	2.0	1.9	1.8	1.5	1.3	1.4	1.4	1.9	1.9	2.1	1.7	1.5	1.6	2.0	2.3	2.3
1.5	1.6	1.7	2.0	2.2	2.7	2.8	2.8	2.9	2.2	2.2	2.2	2.3	2.4	2.7	3.1	3.1	3.3	3.5	3.4	2.8	1.7	1.5	1.3	1.4	1.3	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.5	1.4	1.4

Figure 49. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations



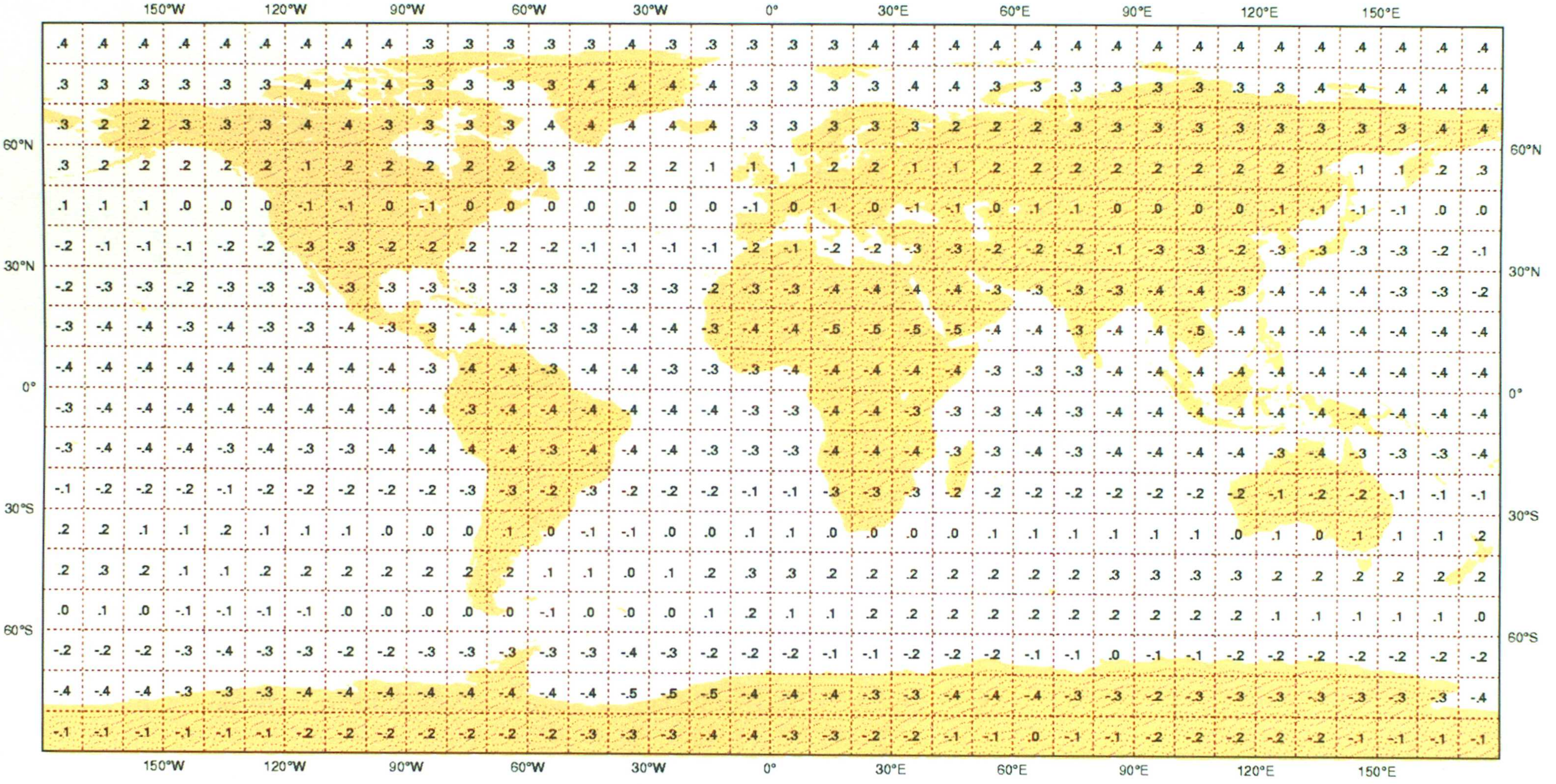
.1	.1	.1	.0	.0	.1	.0	-.1	.0	.0	.0	-.1	-.4	-.6	-.5	.1	-.1	-.1	.0	.0	-.1	.0	.0	.0	.0	.1	.1	-.1	.0	.0	.1	.1	.1	.1	.1	.1
.2	.2	.1	.1	.1	.1	.1	.0	-.1	-.1	-.1	-.2	-1.3	-2.2	-2.1	-.5	.1	.3	.3	.1	.2	.3	.2	.2	.3	.3	.2	.0	.0	.1	.3	.3	.1	.1	.1	.2
.1	-.1	-.1	.0	.0	-.1	-.2	-.2	-.1	-.1	.0	.1	.1	-1.4	-.5	.0	.1	.2	.1	-.1	-.2	-.1	.0	.0	-.1	-.2	-.1	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1
.1	.1	.0	.1	.1	-.3	-.3	-.3	-.2	.0	-.2	-.2	.1	.2	.1	.1	.1	-.1	-.1	-.2	-.2	-.2	-.1	.0	-.1	-.1	-.1	-.1	-.3	-.2	-.3	-.2	-.1	-.1	.0	.1
.1	.1	.2	.2	.1	.0	.1	.0	-.3	-.4	-.4	-.3	-.1	.0	.1	.1	.1	.1	.0	-.4	-.4	-.2	-.1	.0	.2	-.1	-.2	.1	.1	-.1	-.5	-.3	-.2	-.1	.0	.0
-.1	-.1	.0	.0	.0	.0	-.1	-.2	-.6	-.6	-.4	-.3	-.2	-.1	.0	.0	.0	.2	.0	-.1	-.1	.2	.1	.4	.4	-.4	-.9	-.5	-.4	-.8	-.5	-.4	-.3	-.1	-.1	-.2
-.1	-.1	.0	.0	.0	.0	-.1	-.6	-.4	-.6	-.5	-.3	-.2	-.2	-.1	.0	.0	.0	-.2	-.1	.0	.0	.1	-.1	-.1	-.4	-.9	-.9	-.8	-.5	-.6	-.4	-.3	-.2	-.3	-.3
-.2	-.1	-.1	-.2	-.1	-.2	-.3	-.5	-.7	-.6	-.4	-.3	-.2	-.2	-.2	-.2	-.5	-.6	-.6	-.7	-.4	-.2	.2	.1	.0	-.4	-.5	-1.0	-1.0	-.6	-.7	-.5	-.6	-.5	-.4	-.2
-.4	-.3	-.2	-.1	-.2	-.2	-.1	-.2	-.2	-.4	-.9	-.7	-.4	-.2	-.3	-.2	-.2	-.3	-.5	-.9	-.8	-.1	.1	.0	-.2	-.3	-.3	-.6	-.5	-.6	-.5	-.6	-.6	-.5	-.5	-.4
-.3	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	-.6	-.6	-.6	-.2	.0	.0	.0	.0	.0	-.5	-.5	.3	.0	.0	-.2	-.3	-.4	-.5	-.4	-.3	-.3	-.5	-.6	-.5	-.4	-.3
-.2	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.1	-.2	-.2	.0	.0	.0	.0	.0	.0	.0	.1	.1	-.1	.0	.0	.0	.0	.0	.0	-.1	.1	.2	.0	-.1	-.1	-.2
-.1	-.1	.0	-.1	.0	.0	.0	.0	.1	.1	.0	.2	-.1	.0	.0	.0	.1	.0	.0	.2	.3	.1	.0	.1	.1	.2	.1	.1	.1	.3	.1	.3	.3	.1	.1	.0
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	-.1	.2	-.1	.0	.0	.1	.2	.2	.2	.3	.4	.2	.2	.2	.2	.3	.3	.3	.3	.2	.1	.1	.2	.1	.2	.1
.3	.3	.3	.3	.2	.2	.2	.2	.3	.3	.1	.2	.2	.2	.2	.2	.3	.2	.3	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.3	.3	.2	.2	.2	.1
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.2	.1	.1	.0	.0	.0	.1	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2
-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.4	-.4	-.4	-.5	-.3	-.1	.0	.1	.1	.0	-.2	-.4	-.2	.0	-.2	-.3	-.5	-.3	-.3	-.4	-.3	-.3	-.3	-.3
-.4	-.5	-.4	-.5	-.7	-.7	-.7	-.9	-.8	-.5	-.5	-.6	-.4	-.3	-.4	-.7	-1.2	-1.8	-2.6	-2.8	-2.4	-2.3	-3.0	-2.9	-2.1	-2.3	-2.8	-2.3	-2.5	-3.1	-3.8	-3.0	-2.3	-1.8	-.5	-.3
-1.4	-1.4	-1.4	-.9	-1.1	-1.4	-1.7	-2.0	-2.1	-.6	-.6	-1.1	-1.4	-1.2	-1.6	-2.0	-2.5	-3.3	-3.7	-4.1	-4.3	-4.8	-4.7	-4.7	-4.5	-5.1	-6.1	-6.2	-6.2	-5.4	-5.0	-4.4	-3.7	-1.8	-1.4	-1.5

Figure 50. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations



.3	.3	.3	.3	.3	.3	.3	.4	.4	.5	.6	.5	.8	1.0	1.0	.6	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.4	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.5	.6	.6	.8	1.3	1.2	1.2	1.1	.4	.4	.4	.5	.5	.4	.4	.4	.5	.5	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3
.5	.5	.4	.8	.6	.5	.5	.4	.4	.5	.5	.5	.5	1.5	1.3	.6	.5	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.5	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.3	.5	.5	.5	.5	.4	.4	.4	.4	.5	.5	.5	.7	.7	.5	.5	.5	.5	.4	.4
.3	.3	.3	.3	.3	.5	.9	.8	.7	.6	.6	.5	.5	.4	.3	.3	.2	.5	.5	.7	.7	.6	.7	.6	.5	1.0	1.0	.8	.9	.9	.7	.5	.5	.5	.4	.4
.4	.3	.3	.3	.2	.4	1.1	1.1	1.1	.9	.6	.5	.5	.4	.3	.2	.3	.6	.6	.6	.5	.6	.7	.7	.8	2.0	2.0	1.9	1.1	1.0	.8	.7	.6	.5	.5	.5
.3	.3	.3	.2	.3	.3	.5	1.1	.6	1.0	.7	.6	.6	.5	.3	.3	.5	.7	.6	.7	.7	.6	.6	.7	.7	.7	1.1	.9	.9	.7	1.1	.6	.4	.4	.5	.5
.4	.4	.4	.5	.4	.4	.6	.8	.9	.8	.9	.5	.3	.6	.6	.5	1.0	1.4	1.1	1.0	1.3	1.2	1.0	.5	.4	.7	.7	1.0	.9	1.0	1.0	.8	.9	.8	.6	.4
.6	.6	.5	.4	.5	.4	.4	.5	.6	.9	1.2	.9	.6	.6	.6	.5	.6	.6	.7	.9	1.2	1.1	.6	.4	.4	.5	.5	.7	.7	.7	.7	.7	.8	.7	.6	.6
.4	.3	.3	.3	.3	.3	.3	.3	.3	.4	.8	.7	.5	.5	.4	.3	.3	.3	.3	.6	.9	.9	.3	.4	.5	.6	.7	.7	.6	.5	.6	.6	.7	.8	.6	.5
.4	.4	.4	.3	.3	.3	.3	.2	.3	.3	1.0	1.1	.5	.4	.4	.3	.3	.3	.3	.5	.5	.5	.4	.3	.3	.3	.3	.3	.3	.3	.6	.6	.5	.4	.4	.4
.4	.4	.3	.4	.5	.4	.4	.3	.3	.3	.4	1.0	.7	.6	.3	.2	.3	.3	.3	.6	.6	.4	.4	.3	.3	.3	.3	.3	.3	.6	.7	.4	.4	.4	.5	.4
.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.7	.8	.6	.7	.4	.3	.3	.3	.3	.4	.5	.4	.4	.3	.3	.3	.3	.4	.4	.5	.4	.5	.5	.4	.3	.4
.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.6	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4
.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.5	.5	.4	.4	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.6	.4	.4	.4	.4	.4	.5	.4	.4
.5	.5	.5	.5	.6	.5	.5	.6	.5	.5	.5	.7	.5	.4	.4	.4	.4	.5	.5	.6	.6	.6	.8	1.0	.7	.6	.9	1.0	1.1	.8	.9	1.0	.7	.6	.5	.6
.6	.6	.8	1.0	1.4	1.5	1.4	1.0	1.1	.9	.9	1.0	.9	.6	.7	1.1	1.6	2.1	2.6	3.0	2.6	2.1	1.9	1.7	1.5	2.0	2.5	3.2	2.7	2.8	2.7	1.8	1.4	1.4	1.0	.6
1.0	1.0	1.2	1.2	1.3	1.4	1.6	1.9	2.0	1.0	.8	.8	.9	.9	1.1	1.4	1.6	1.9	2.1	2.1	2.0	2.3	1.8	1.6	1.5	1.9	2.1	1.9	1.7	1.5	1.3	1.4	1.6	1.7	1.2	1.1

Figure 51. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations



.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4
.3	.2	.2	.3	.3	.3	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4
.3	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.3	.2	.2	.2	.1	.1	.1	.2	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.2	.3
.1	.1	.1	.0	.0	.0	-.1	-.1	.0	-.1	.0	.0	.0	.0	.0	.0	.0	-.1	.0	.1	.0	-.1	-.1	.0	.1	.1	.0	.0	.0	.0	-.1	-.1	-.1	-.1	.0	.0
-.2	-.1	-.1	-.1	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.2	-.1	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.1	-.3	-.3	-.2	-.3	-.3	-.3	-.3	-.2	-.1
-.2	-.3	-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.3	-.2	-.3	-.3	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.3	-.4	-.4	-.4	-.3	-.3	-.2
-.3	-.4	-.4	-.3	-.4	-.3	-.3	-.4	-.3	-.3	-.4	-.4	-.3	-.3	-.4	-.4	-.3	-.4	-.4	-.5	-.5	-.5	-.5	-.4	-.4	-.3	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4
-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.3	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4
-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.3	-.3	-.3	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4
-.3	-.4	-.4	-.4	-.3	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.4	-.3	-.3	-.4	-.3	-.4	-.4	-.4	-.4	-.3	-.4	-.3	-.3	-.3	-.4
-.1	-.2	-.2	-.2	-.1	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.3	-.2	-.2	-.2	-.1	-.1	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.2	-.1	-.1	-.1
.2	.2	.1	.1	.2	.1	.1	.1	.0	.0	.0	.1	.0	-.1	-.1	.0	.0	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.1	.0	.1	.1	.1	.2
.2	.3	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.1	.1	.0	.1	.2	.3	.3	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2
.0	.1	.0	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	-.1	.0	.0	.0	.1	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.0
-.2	-.2	-.2	-.3	-.4	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.4	-.3	-.2	-.2	-.2	-.1	-.1	-.2	-.2	-.2	-.1	-.1	.0	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2
-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.3	-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4
-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.4	-.4	-.3	-.3	-.2	-.2	-.1	-.1	.0	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1

Figure 52. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations

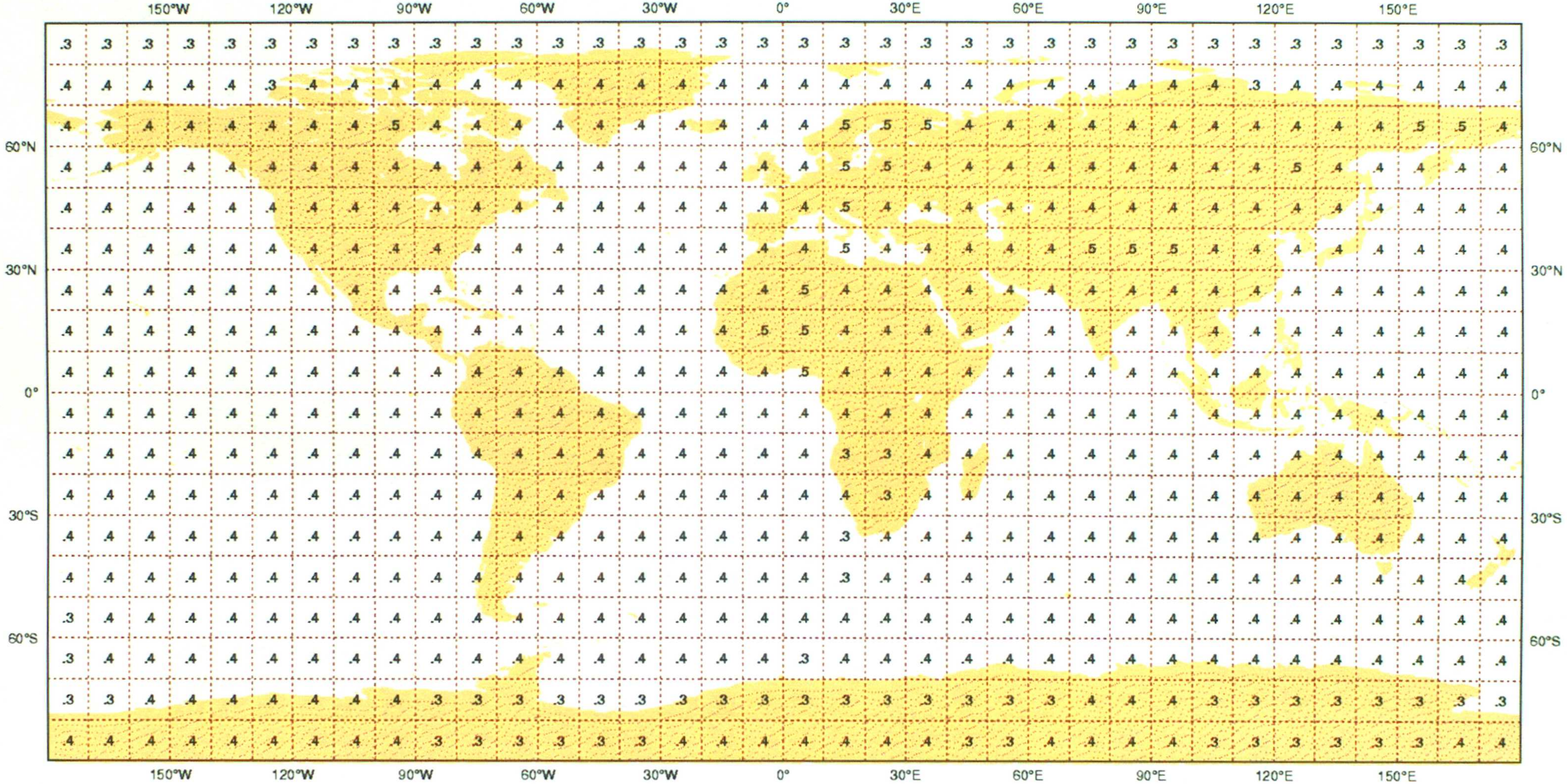

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N
30°N
0°
30°S
60°S
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .5 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.3 .3 .4 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3
.4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4 .4 .4 .3 .3 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .4 .4
60°N
30°N
0°
30°S
60°S
150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E

Figure 53. ATOVS MEAN O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations

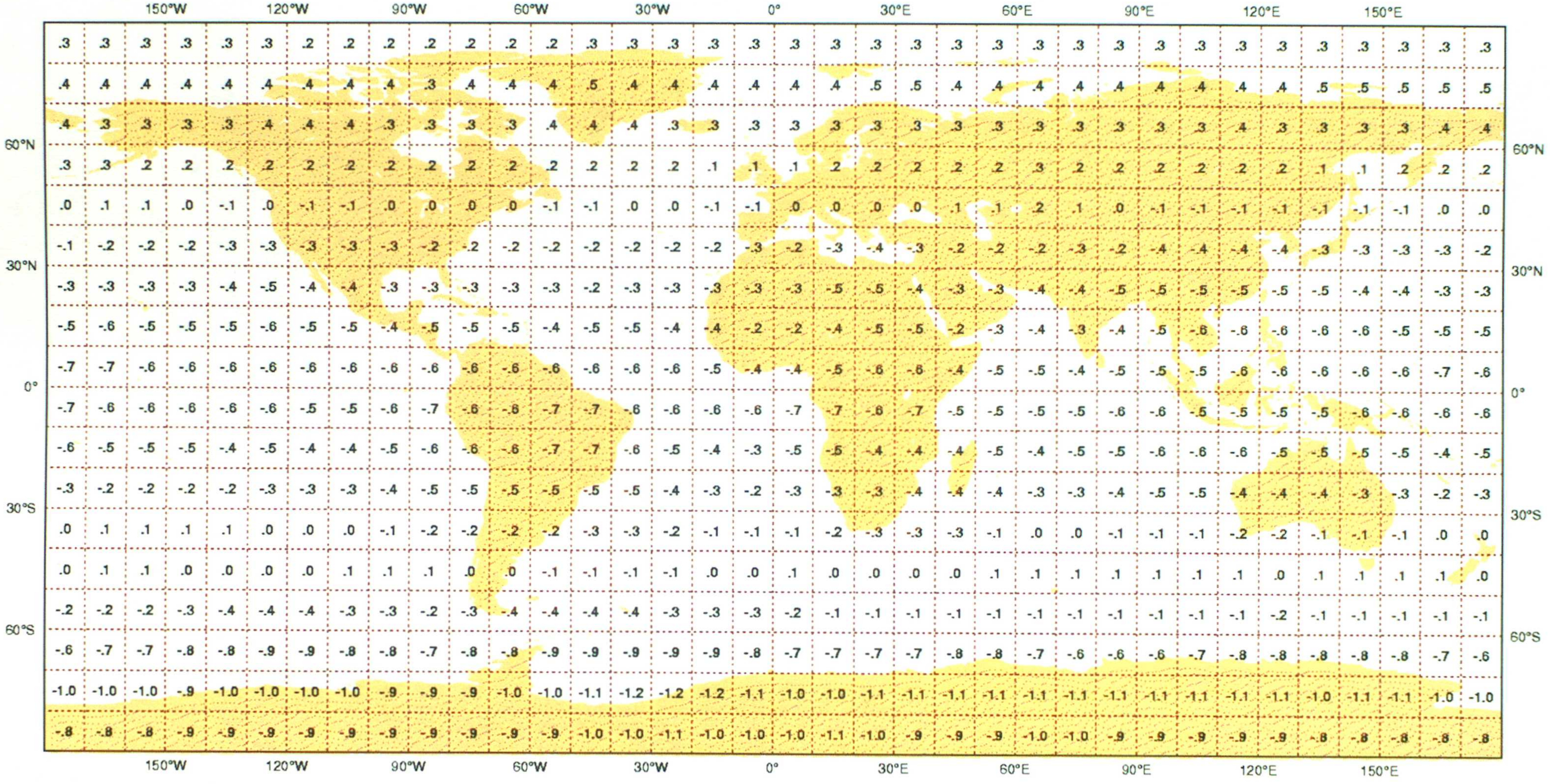

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N 30°N 0° 30°S 60°S
.3 .3 .3 .3 .3 .3 .2 .2 .2 .2 .2 .2 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .5 .5 .5
.4 .3 .3 .3 .3 .4 .4 .4 .3 .3 .3 .3 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .4 .4
.3 .3 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .1 .1 .1 .2 .2 .2 .2 .2 .3 .2 .2 .2 .2 .2 .2 .1 .1 .2 .2 .2
.0 .1 .1 .0 -.1 .0 -.1 -.1 .0 .0 .0 .0 -.1 -.1 .0 .0 -.1 -.1 .0 .0 .0 .0 .1 .1 .2 .1 .0 -.1 -.1 -.1 -.1 -.1 -.1 -.1 .0 .0
-.1 -.2 -.2 -.2 -.3 -.3 -.3 -.3 -.3 -.2 -.2 -.2 -.2 -.2 -.2 -.2 -.2 -.3 -.2 -.3 -.4 -.3 -.2 -.2 -.2 -.3 -.2 -.4 -.4 -.4 -.4 -.3 -.3 -.3 -.3 -.2
-.3 -.3 -.3 -.3 -.4 -.5 -.4 -.4 -.3 -.3 -.3 -.3 -.3 -.2 -.3 -.3 -.3 -.3 -.3 -.5 -.5 -.4 -.3 -.3 -.4 -.4 -.5 -.5 -.5 -.5 -.5 -.5 -.4 -.4 -.3 -.3
-.5 -.6 -.5 -.5 -.5 -.6 -.5 -.5 -.4 -.5 -.5 -.5 -.4 -.5 -.5 -.4 -.4 -.2 -.2 -.4 -.5 -.5 -.2 -.3 -.4 -.3 -.4 -.5 -.6 -.6 -.6 -.6 -.6 -.5 -.5 -.5
-.7 -.7 -.6 -.6 -.6 -.6 -.6 -.6 -.6 -.6 -.6 -.6 -.6 -.6 -.6 -.6 -.5 -.4 -.4 -.5 -.6 -.6 -.4 -.5 -.5 -.4 -.5 -.5 -.5 -.6 -.6 -.6 -.6 -.6 -.7 -.6
-.7 -.6 -.6 -.6 -.6 -.6 -.5 -.5 -.6 -.7 -.6 -.6 -.7 -.7 -.6 -.6 -.6 -.6 -.7 -.7 -.6 -.7 -.5 -.5 -.5 -.5 -.6 -.6 -.5 -.5 -.5 -.5 -.6 -.6 -.6 -.6
-.6 -.5 -.5 -.5 -.4 -.5 -.4 -.4 -.5 -.6 -.6 -.6 -.7 -.7 -.6 -.5 -.4 -.3 -.5 -.5 -.4 -.4 -.4 -.5 -.4 -.5 -.5 -.6 -.6 -.6 -.5 -.5 -.5 -.5 -.4 -.5
-.3 -.2 -.2 -.2 -.2 -.3 -.3 -.3 -.4 -.5 -.5 -.5 -.5 -.5 -.5 -.4 -.3 -.2 -.3 -.3 -.3 -.4 -.4 -.4 -.3 -.3 -.4 -.5 -.5 -.4 -.4 -.4 -.3 -.3 -.2 -.3
.0 .1 .1 .1 .1 .0 .0 .0 -.1 -.2 -.2 -.2 -.2 -.3 -.3 -.2 -.1 -.1 -.1 -.2 -.3 -.3 -.3 -.1 .0 .0 -.1 -.1 -.1 -.2 -.2 -.1 -.1 -.1 .0 .0
.0 .1 .1 .0 .0 .0 .0 .1 .1 .1 .0 .0 -.1 -.1 -.1 -.1 .0 .0 .1 .0 .0 .0 .0 .1 .1 .1 .1 .1 .1 .1 .0 .1 .1 .1 .1 .0
-.2 -.2 -.2 -.3 -.4 -.4 -.4 -.3 -.3 -.2 -.3 -.4 -.4 -.4 -.4 -.3 -.3 -.3 -.2 -.1 -.1 -.1 -.1 -.1 -.1 -.1 -.1 -.1 -.1 -.1 -.2 -.1 -.1 -.1 -.1 -.1
-.6 -.7 -.7 -.8 -.8 -.9 -.9 -.8 -.8 -.7 -.8 -.8 -.9 -.9 -.9 -.9 -.9 -.8 -.7 -.7 -.7 -.7 -.8 -.8 -.7 -.6 -.6 -.6 -.7 -.8 -.8 -.8 -.8 -.8 -.7 -.6
-1.0 -1.0 -1.0 -.9 -1.0 -1.0 -1.0 -1.0 -.9 -.9 -.9 -1.0 -1.0 -1.1 -1.2 -1.2 -1.2 -1.1 -1.0 -1.0 -1.1 -1.1 -1.1 -1.1 -1.1 -1.1 -1.1 -1.1 -1.1 -1.1 -1.1 -1.0 -1.1 -1.1 -1.0 -1.0
-.8 -.8 -.8 -.9 -.9 -.9 -.9 -.9 -.9 -.9 -.9 -.9 -.9 -1.0 -1.0 -1.1 -1.0 -1.0 -1.0 -1.1 -1.0 -.9 -.9 -.9 -1.0 -1.0 -.9 -.9 -.9 -.9 -.9 -.8 -.8 -.8 -.8 -.8

Figure 54. ATOVS SD O-B brightness temperature differences (deg C). AUGUST 2005
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations

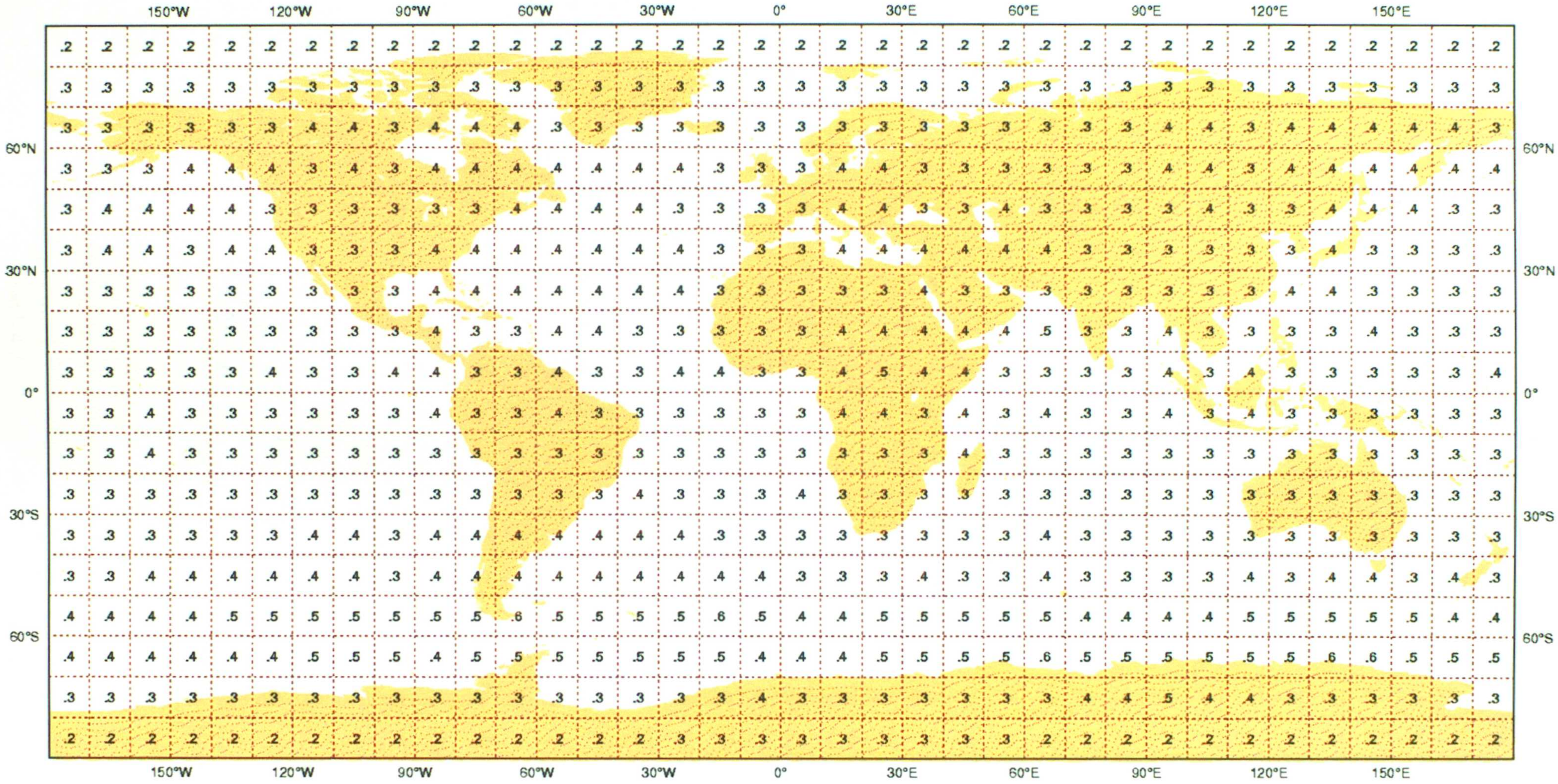

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

TABLE 8

MONTHLY MONITORING OF MARINE SURFACE OBSERVATIONS (COSNA)
DATA TYPE:- DRIFTER
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for drifting buoy.
Area monitored		:10°N - 80°N, 85°W - 0°W
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:All hours combined.
Elements monitored		:Mean sea-level pressure (hPa) :Wind speed (m s^{-1}) :Wind direction (degrees)
Parameters monitored	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors. **N.B. A positive bias indicates the wind observation is veered to the background**
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors
GROSS ERROR LIMITS	:15 hPa (pressure) :25 m s^{-1} (Vector Wind)	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
13534	31.9	-29.3	P	1380	0	50	0.3	-0.3	0.5
41501	12.3	-50.1	P	789	0	12	0.5	0.3	0.6
41502	15.7	-48.0	P	768	0	12	0.6	1.2	1.3
41505	16.1	-50.6	P	788	5	27	3.6	1.8	4.0
41525	25.8	-70.8	P	789	0	14	0.5	0.5	0.7
41528	28.4	-75.9	P	771	0	14	0.5	0.8	1.0
41539	26.7	-74.8	P	915	2	30	1.1	1.3	1.7
41540	40.8	-44.6	P	785	0	16	0.9	0.9	1.3
41542	26.3	-75.5	P	803	0	16	0.5	1.4	1.5
41543	27.4	-57.2	P	824	0	16	0.6	0.4	0.7
41544	19.8	-62.5	P	883	0	21	0.5	0.8	0.9
41545	23.3	-63.8	P	809	0	13	0.6	1.3	1.4
41625	26.4	-75.0	P	741	0	13	0.6	0.6	0.9
41630	25.1	-74.8	P	775	0	14	0.6	0.4	0.7
41643	20.3	-67.9	P	774	0	14	0.5	0.4	0.7
41645	24.3	-69.8	P	1077	0	38	0.6	0.5	0.8
41646	23.2	-72.2	P	738	0	12	0.7	0.6	0.9
41663	17.3	-62.7	P	42	0	100	0.3	-1.5	1.5
41927	28.9	-67.3	P	713	0	45	1.5	0.1	1.5
41929	33.1	-64.3	P	814	0	49	1.1	0.7	1.3
41931	36.2	-69.6	P	690	0	46	1.0	0.4	1.0
41934	29.5	-74.5	P	815	0	47	0.6	-0.2	0.7
41935	28.8	-73.1	P	714	0	45	1.1	0.1	1.1
41939	34.8	-49.6	P	719	1	100	1.2	-2.3	2.6
44549	56.0	-19.8	P	768	1	20	0.5	-0.1	0.5
44550	51.1	-26.6	P	736	0	17	0.4	-0.1	0.5
44607	41.2	-30.9	P	859	0	17	0.5	0.0	0.5
44608	39.8	-31.5	P	748	0	12	0.9	-0.6	1.1
44609	48.1	-26.5	P	728	0	18	0.4	-0.2	0.4
44610	53.0	-36.6	P	830	0	14	0.7	-0.4	0.9
44611	55.8	-26.2	P	853	0	17	0.5	-0.3	0.6
44612	60.1	-14.5	P	839	0	21	0.7	0.1	0.7
44615	45.3	-48.4	P	826	0	13	0.5	-0.2	0.6
44628	28.2	-34.1	P	749	0	46	0.4	-0.4	0.6
44635	43.7	-51.0	P	316	0	14	0.7	0.5	0.9
44636	43.9	-60.0	P	392	0	17	0.6	0.1	0.6
44637	44.5	-61.2	P	451	0	18	0.6	0.3	0.7
44722	47.2	-27.6	P	797	0	13	0.5	-0.1	0.5
44723	58.4	-41.3	P	865	0	18	0.8	-0.2	0.8
44725	55.0	-44.1	P	878	0	18	0.8	0.3	0.9
44726	50.4	-46.7	P	813	0	13	0.6	-0.5	0.7
44727	42.1	-31.9	P	834	0	15	0.6	0.1	0.6
44728	50.7	-28.8	P	837	0	15	0.5	0.2	0.6
44729	45.6	-56.0	P	825	0	12	0.5	-0.9	1.0
44743	40.0	-11.8	P	733	0	14	0.5	0.4	0.6
44775	58.9	-12.5	P	1204	0	67	0.6	-0.1	0.6
44831	54.2	-40.8	P	871	0	19	0.9	-0.3	1.0
44832	56.9	-38.8	P	869	0	19	0.8	-0.4	0.8
44833	44.1	-63.9	P	654	0	15	0.7	0.0	0.7
44842	62.2	-24.2	P	884	0	21	0.5	-0.1	0.6
44843	63.0	-34.2	P	880	0	21	0.8	-0.3	0.8
44844	56.8	-31.6	P	873	0	20	0.7	-0.1	0.7
44845	43.5	-49.6	P	832	0	17	0.7	-0.1	0.7
44846	45.3	-28.9	P	810	0	16	0.5	-0.1	0.5
44847	41.9	-32.1	P	810	0	16	0.6	0.0	0.6
44848	39.9	-36.8	P	821	0	15	0.6	0.0	0.6
44849	45.1	-43.0	P	836	0	17	0.6	-0.2	0.6
44850	44.5	-38.3	P	814	0	16	0.7	-0.4	0.8
44901	42.5	-42.4	P	823	0	18	0.8	-0.3	0.9
62501	43.7	-11.0	P	15	0	0	0.3	-0.2	0.4

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
62502	45.8	-5.3	P	701	0	12	0.4	0.1	0.4
62503	45.5	-5.7	P	704	0	16	0.4	0.0	0.4
62504	46.2	-9.6	P	857	0	16	0.4	-0.5	0.7
62510	34.6	-23.6	P	844	0	15	0.3	-0.1	0.4
62511	45.4	-11.7	P	752	0	13	0.4	0.5	0.6
62514	62.9	-41.6	P	799	0	14	1.0	-0.4	1.1
62515	44.2	-6.2	P	817	0	13	0.4	-0.3	0.5
62556	28.3	-28.9	P	859	0	16	0.3	0.0	0.3
62557	27.9	-24.9	P	1517	0	54	0.3	0.0	0.3
62560	43.9	-21.1	P	1252	0	47	0.4	0.6	0.7
62562	47.8	-18.5	P	759	0	15	0.5	0.9	1.0
62563	55.5	-6.6	P	849	0	18	0.4	-0.2	0.4
62564	40.1	-23.3	P	869	0	17	0.4	0.4	0.6
62566	57.0	-14.7	P	872	0	19	0.6	0.0	0.6
62567	41.3	-16.2	P	718	0	11	0.4	-0.3	0.5
62568	56.7	-19.5	P	79	0	23	0.5	0.6	0.7
62569	56.7	-30.0	P	39	0	13	0.2	0.5	0.6
62901	54.0	-15.0	P	835	0	18	0.6	-0.3	0.7
62907	44.7	-8.3	P	160	0	4	0.4	-0.2	0.5
62908	44.6	-3.1	P	112	0	7	0.6	-0.2	0.6
62909	45.8	-6.2	P	57	0	4	0.4	-0.2	0.5
62926	44.7	-6.4	P	110	0	3	0.4	-0.3	0.5
62927	44.3	-7.6	P	12	0	8	0.4	-0.4	0.6
62928	46.5	-5.2	P	72	0	1	0.4	-0.4	0.5
62929	43.9	-5.1	P	108	0	2	0.5	-0.3	0.6
62930	44.7	-8.9	P	262	0	11	0.3	-0.3	0.4
62931	43.6	-9.1	P	316	0	9	0.4	-0.4	0.6
62932	46.4	-6.4	P	139	0	7	0.4	-0.4	0.5
62934	47.1	-17.4	P	792	0	14	0.4	-0.2	0.5
62935	44.3	-33.5	P	775	0	17	1.0	-0.3	1.0
62936	48.8	-24.7	P	822	0	16	0.4	0.1	0.4
64609	61.8	-39.9	P	907	0	21	1.0	-0.4	1.0
64612	60.6	-26.3	P	910	0	21	0.5	-0.9	1.1
64929	60.7	-28.1	P	890	0	21	0.6	0.0	0.6

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	25.8	-70.8	SPEED	779	0	100	2.2	0.4	2.2
41528	28.4	-75.9	SPEED	759	0	100	1.9	0.2	1.9
41542	26.3	-75.5	SPEED	770	0	100	1.6	-1.0	1.9
41543	27.4	-57.2	SPEED	731	0	100	1.6	-2.8	3.3
41544	19.8	-62.5	SPEED	281	0	100	2.5	-3.2	4.0
41625	26.4	-75.0	SPEED	736	0	100	1.8	2.0	2.8
41630	25.1	-74.8	SPEED	766	0	100	2.6	0.5	2.7
41643	20.3	-67.9	SPEED	768	0	100	3.1	1.6	3.5
41645	24.3	-69.8	SPEED	1069	0	100	2.8	2.5	3.7
41646	23.2	-72.2	SPEED	730	0	100	2.7	1.5	3.1
41927	28.9	-67.3	SPEED	8	50	100	7.3	6.0	9.5
41929	33.1	-64.3	SPEED	46	4	100	3.1	2.8	4.2
41931	36.2	-69.6	SPEED	10	30	100	4.8	14.4	15.1
41934	29.5	-74.5	SPEED	2	100	0			
41935	28.8	-73.1	SPEED	15	60	100	10.6	10.2	14.7
41939	34.8	-49.6	SPEED	9	33	100	8.6	3.6	9.4
62566	57.0	-14.7	SPEED	729	1	100	4.2	3.6	5.5

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	25.8	-70.8	DIRN.	204	0	0	21.1	20.1	29.1
41528	28.4	-75.9	DIRN.	116	0	0	32.3	16.3	36.2
41542	26.3	-75.5	DIRN.	106	0	0	21.9	3.7	22.2
41543	27.4	-57.2	DIRN.	19	0	0	20.3	0.7	20.3
41544	19.8	-62.5	DIRN.	104	0	0	11.6	4.1	12.3
41625	26.4	-75.0	DIRN.	188	1	0	19.3	15.4	24.7

41630	25.1	-74.8	DIRN.	314	0	0	25.1	12.8	28.2
41643	20.3	-67.9	DIRN.	418	1	0	31.7	29.3	43.2
41645	24.3	-69.8	DIRN.	552	0	0	23.9	20.6	31.5
41646	23.2	-72.2	DIRN.	420	0	0	20.6	13.4	24.6
41927	28.9	-67.3	DIRN.	4	100	0			
41929	33.1	-64.3	DIRN.	5	40	0	43.3	-59.8	73.8
41931	36.2	-69.6	DIRN.	8	38	0	50.3	-73.3	89.0
41934	29.5	-74.5	DIRN.	2	100	0			
41935	28.8	-73.1	DIRN.	9	100	0			
41939	34.8	-49.6	DIRN.	6	50	0	82.6	-33.5	89.2
62566	57.0	-14.7	DIRN.	586	1	0	19.1	12.4	22.7

TABLE 9

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Statistics for each airline carrier.
Area monitored		:40°N - 70°N, 60°W - 0°W.
Standard of comparison		:Background field from UKMO global model.
Observation times		:All hours combined.
Level(s) monitored		:300.0 - 150.0 hPa
Elements monitored		:TEMP in °C ; WIND in $m\ s^{-1}$
Parameters monitored	:N REP.	:Number of observations received excluding duplicates.
	:PG	:Percentage of observations with gross errors.
	:PR	:Percentage of observations rejected by quality control including rejections from the duplicate check.
	:PC	:Percentage of observations with calm winds.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors in Temperature & vector wind.
GROSS ERROR LIMITS	:10.0 °C ; 60 $m\ s^{-1}$ Vector Wind	
SELECTION CRITERIA	:N REP ≥ 20	

NB : All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS". All ADS reports are similarly grouped together.

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	5517	0	4	1.4	0.3	5221	0	4	0	5.1	0.6
ABD	33	6	15	1.3	-0.8	35	0	9	0	4.9	-0.2
ACA	2875	0	3	1.5	-0.2	2265	0	3	0	5.3	0.6
AEA	430	0	2	1.2	-0.1	365	0	3	0	6.8	0.7
AFL	454	0	2	1.7	0.2	261	0	2	0	6.5	0.2
AFR	5300	0	3	1.3	0.2	5186	0	3	0	5.3	0.4
AJM	143	0	1	1.2	-0.2	114	0	3	0	6.5	0.4
AMT	117	0	9	1.6	0.4	116	0	10	0	7.4	-0.2
AMX	440	0	2	1.5	0.2	382	0	3	0	6.9	0.1
ANZ	153	0	25	1.5	-0.4	140	0	26	0	5.5	-0.5
AUA	573	0	2	1.5	0.5	547	0	1	0	4.6	0.4
AVA	35	0	0	1.3	0.0	35	0	6	0	12.6	1.6
AZA	463	1	4	1.5	0.0	361	0	5	0	8.8	0.5
BAL	246	1	8	1.1	0.1	238	0	11	0	8.2	-0.9
BAW	663	0	8	1.5	-0.3	513	0	7	0	6.2	0.4
BMA	422	0	4	1.3	0.1	358	0	3	0	4.3	0.8
BPA	442	0	11	1.4	0.3	447	0	12	0	7.2	-0.3
BWA	176	0	1	1.1	0.0	154	0	1	0	4.7	0.6
CFC	42	0	7	2.0	0.4	42	0	17	0	12.4	3.5
CFG	516	0	1	1.2	0.0	399	0	3	0	7.3	0.4
CKS	89	0	7	1.9	0.3	58	0	7	0	10.2	-0.8
CLX	233	0	2	1.7	-0.4	159	1	7	0	8.2	0.1
CNJ	279	0	57	0.9	0.5	279	0	57	0	4.6	-0.3
COA	5800	0	7	1.3	0.1	5601	0	6	0	5.1	0.6
CRL	350	0	2	1.5	0.0	330	0	2	0	5.5	0.4
CSD	45	0	0	1.8	1.2	34	0	0	0	5.6	0.3
CUB	111	0	1	1.4	-1.1	92	0	0	0	4.7	-0.3
DAL	1322	0	3	1.4	0.2	1243	0	3	0	4.9	1.0
DLH	6390	0	4	1.4	0.2	6185	0	4	0	5.0	0.3
DRD	153	0	1	1.5	-0.2	152	0	3	0	7.3	0.2
EDW	56	0	4	1.2	-0.5	45	0	7	0	7.1	0.0
EEZ	217	2	12	1.9	0.1	196	1	10	0	6.2	0.5
EIA	115	2	17	1.5	-0.1	111	0	100	0	24.8	5.9
ELY	541	0	0	1.2	0.3	515	0	0	0	4.9	0.6
ETH	28	0	0	0.9	-0.4	27	0	0	0	2.8	0.7
FCA	169	0	12	3.0	1.8	141	0	3	0	6.3	0.9
FDX	830	0	38	1.4	0.3	587	0	36	0	8.5	-0.1
FIN	538	0	4	1.7	0.1	451	0	3	0	6.2	0.3
FWI	312	0	2	1.1	-0.5	315	1	3	0	5.6	0.4
GAF	34	0	3	1.3	-0.4	23	0	0	0	4.7	0.8
GCO	144	0	13	1.2	0.1	144	0	100	0	12.4	0.8
GRL	105	1	1	1.7	0.4	99	0	0	0	3.9	0.3
GTI	166	2	100	3.3	1.8	150	0	16	0	7.2	-0.2
IBE	1723	0	8	1.5	0.3	1722	0	8	0	6.3	0.3
ICE	1107	0	2	1.6	-0.2	642	0	1	0	6.1	0.5
ISR	90	2	6	1.3	-0.1	59	0	7	0	7.7	0.0
IWD	290	0	1	1.1	-0.3	291	0	2	0	5.2	0.5
KAC	174	0	5	1.3	0.6	173	0	5	0	4.9	1.2
KLM	1240	0	3	1.5	-0.1	989	0	3	0	5.6	0.2
LAN	30	0	3	1.1	0.0	29	0	3	0	7.5	0.8
LDI	323	0	4	1.3	0.2	283	0	4	0	6.7	0.7
LOT	436	0	2	1.8	-0.8	312	0	2	0	6.2	-0.1
LTU	714	1	7	1.6	0.0	590	0	5	0	7.1	0.6
MON	45	0	2	1.9	0.0	28	0	0	0	5.2	-1.4
MPD	267	1	2	1.3	0.2	228	0	3	0	6.7	1.0
MPH	422	0	2	1.6	-0.7	290	0	2	0	7.0	0.1
MSR	152	0	2	1.3	0.6	149	0	2	0	4.2	0.8
MYT	331	2	3	1.3	-0.2	247	0	3	0	7.3	0.2
NAO	91	0	8	1.8	0.8	77	0	6	0	6.3	0.4

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
NCA	24	0	0	1.6	-0.3	22	0	9	0	9.1	2.0
NOS	47	0	6	1.0	-0.4	37	0	5	0	5.2	0.0
NWA	3507	1	4	1.8	0.1	3389	0	4	0	7.3	0.4
OAE	215	0	7	1.3	0.0	130	0	20	0	12.7	2.3
OOM	161	1	6	2.0	-1.0	127	0	6	0	8.0	0.7
PAC	139	0	14	2.2	0.0	113	0	12	0	8.7	0.2
PLM	193	0	2	1.6	1.0	177	0	5	0	7.3	0.4
RAM	319	0	5	1.8	0.7	235	0	7	0	9.1	0.4
RCH	219	3	100	4.2	-0.1	163	0	100	0	10.9	1.2
RJA	30	0	0	1.0	-0.4	22	0	0	0	4.8	1.2
RRR	23	4	4	1.8	0.3	23	0	0	0	5.4	0.9
RYN	42	0	7	2.9	1.9	34	0	6	0	8.1	0.7
RZO	472	0	4	2.1	0.2	407	0	4	0	7.0	0.3
SAS	1068	0	46	1.4	0.1	993	0	46	0	4.4	0.6
SCY	52	0	8	1.2	0.4	48	0	10	0	6.2	-1.2
SEU	112	0	2	1.3	0.0	85	0	1	0	5.5	0.6
SIA	344	0	2	1.4	0.3	338	0	1	0	4.6	0.6
SLM	42	0	0	0.9	0.3	42	0	0	0	4.4	0.0
SQC	313	0	0	1.4	0.3	310	0	0	0	5.0	-0.3
SSV	126	0	5	1.4	0.2	88	0	2	0	7.1	1.2
SVA	44	2	7	1.3	0.5	34	0	15	0	11.0	-1.2
SWR	1572	0	4	1.4	-0.2	1546	0	4	0	4.7	0.8
TAP	335	1	2	1.2	-0.3	282	0	5	0	7.6	0.3
TCX	328	0	5	1.3	0.1	281	0	5	0	5.6	0.9
TFL	108	0	0	0.8	0.0	86	0	1	0	5.2	-0.4
THT	106	0	2	1.3	-0.3	97	0	2	0	4.2	1.0
TSC	527	1	3	1.6	-0.4	375	0	4	0	6.1	0.2
TUB	53	0	21	3.1	1.6	20	0	0	0	5.3	0.5
UAE	231	0	3	1.4	0.2	218	0	4	0	6.1	0.7
UAL	4010	0	4	1.3	-0.1	3936	0	4	0	4.7	0.6
UPS	1261	0	50	1.6	0.0	1225	0	50	0	6.9	0.0
USA	1920	0	2	1.1	0.1	1875	0	2	0	4.9	0.7
VIR	2545	0	3	1.3	0.0	2481	0	3	0	4.8	0.3
VLE	25	0	4	0.7	-0.4	23	0	9	0	9.4	-0.9
VVJ	29	3	14	0.8	-0.3	30	0	17	0	8.6	1.0
WOA	275	1	11	1.6	0.5	204	0	17	0	10.4	0.1
XLA	121	0	2	0.9	0.0	96	0	3	0	5.0	-0.1
YSS	84	0	6	1.3	0.3	77	0	5	0	6.7	0.7

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
EU	29504	0	19	1.2	0.2	29504	0	18	0	4.1	0.2
N	439	1	5	2.2	0.4	251	0	5	0	8.7	0.1
US ACARS	23429	0	35	1.4	0.2	23429	0	31	0	4.9	0.1

TABLE 10

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBBH	12	Z	100	7	0	5.5	11.8	-10.4
DBLK	12	Z	100	29	0	7.7	22.5	21.1
EBUQ	12	Z	100	15	1	20.4	20.4	-1.6
ELML7	00	Z	100	10	0	9.8	10.3	3.3
ELML7	12	Z	100	12	0	18.1	25.4	17.9
FQFL	00	Z	100	11	0	7.9	19.1	-17.4
FQFL	12	Z	100	11	0	11.9	19.8	-15.8
FQFM	00	Z	100	12	0	13.3	13.3	1.4
FQFM	12	Z	100	9	0	73.8	74.1	-6.7
HPII	00	Z	100	8	0	14.4	16.1	7.4
HPII	12	Z	100	11	0	21.9	22.0	2.1
KRPD	00	Z	100	7	0	10.3	12.1	6.3
KRPD	12	Z	100	6	0	4.1	15.4	14.8
LDWR	00	Z	100	23	0	10.0	13.5	9.1
LDWR	12	Z	100	23	0	11.4	11.6	2.0
OXVH2	00	Z	100	4	0	10.6	35.6	34.0
OXVH2	12	Z	100	6	0	21.1	40.8	35.0
OXYH2	00	Z	100	4	0	12.6	31.6	29.0
OXYH2	12	Z	100	7	0	9.9	28.2	26.4
SKUN	00	Z	100	7	0	8.9	26.0	24.4
SKUN	12	Z	100	5	0	10.6	41.0	39.6
V2XM	00	Z	100	2	0	4.5	35.8	35.5
V2XM	12	Z	100	2	0	4.0	55.1	55.0
WAAH	00	Z	100	17	0	8.7	42.8	41.9
WAAH	12	Z	100	12	0	12.1	54.6	53.3
WPKD	00	Z	100	8	0	8.8	12.7	9.1
WPKD	12	Z	100	10	0	7.8	14.6	12.4
ZCBF3	00	Z	100	1	0	0.0	13.0	13.0
ZCBF3	12	Z	100	3	0	24.9	26.0	7.3
ZCBP6	00	Z	100	9	0	8.4	40.2	39.3
ZCBP6	12	Z	100	7	0	18.6	32.2	26.3
03953	00	Z	100	27	0	13.0	13.3	2.5
03953	12	Z	100	29	0	11.6	11.6	-0.9
04018	00	Z	100	29	0	10.1	21.5	18.9
04018	12	Z	100	25	1	11.1	15.7	11.0
04220	00	Z	100	19	0	13.5	33.3	30.4
04220	12	Z	100	27	0	9.0	30.4	29.1
04270	00	Z	100	22	0	10.4	20.2	17.4
04270	12	Z	100	30	0	9.3	12.8	8.8
04339	00	Z	100	30	0	13.0	27.3	24.1
04339	12	Z	100	30	0	14.5	24.8	20.1
04360	00	Z	100	19	0	8.9	30.1	28.8
04360	12	Z	100	26	1	12.7	27.2	24.0
08001	00	Z	100	23	0	6.1	7.5	4.3
08001	12	Z	100	26	0	8.9	9.8	4.0
08508	00	Z	100	5	0	4.6	4.8	1.0
08508	12	Z	100	28	0	10.7	10.7	0.4
08522	12	Z	100	30	0	8.9	10.0	-4.4
08594	12	Z	100	24	0	18.4	19.3	-5.9
71600	00	Z	100	30	0	17.0	17.5	-4.1
71600	12	Z	100	31	0	8.8	9.7	3.9
72201	00	Z	100	28	0	14.3	15.6	6.3
72201	12	Z	100	30	0	12.6	19.3	14.7
72402	00	Z	100	29	0	14.7	21.3	15.4
72402	12	Z	100	31	0	11.4	11.5	1.8
74494	00	Z	100	30	0	13.8	15.4	-6.8
74494	12	Z	100	31	0	8.7	17.0	-14.6
78016	00	Z	100	26	2	11.3	16.2	11.6
78016	12	Z	100	29	0	11.0	13.8	8.3

TABLE 11

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBBH	12	Z	500	8	0	7.5	9.3	-5.5
DBLK	12	Z	500	29	0	6.9	8.8	5.5
EBUQ	12	Z	500	18	0	10.5	10.9	3.0
ELML7	00	Z	500	10	0	5.5	5.7	1.2
ELML7	12	Z	500	13	0	7.7	8.6	3.8
FQFL	00	Z	500	12	0	5.8	14.5	-13.3
FQFL	12	Z	500	12	0	5.8	13.1	-11.7
FQFM	00	Z	500	12	0	7.3	8.3	-3.9
FQFM	12	Z	500	9	0	7.6	7.7	-1.2
HPII	00	Z	500	13	0	11.6	19.0	15.0
HPII	12	Z	500	13	0	17.3	23.5	15.9
KRPD	00	Z	500	8	0	6.4	6.5	-1.1
KRPD	12	Z	500	6	0	11.1	12.5	-5.8
LDWR	00	Z	500	23	0	6.0	6.1	-1.3
LDWR	12	Z	500	24	0	7.3	7.3	-0.3
OXVH2	00	Z	500	4	0	8.5	13.9	11.0
OXVH2	12	Z	500	6	0	27.3	32.6	17.8
OXYH2	00	Z	500	5	0	3.1	9.7	9.2
OXYH2	12	Z	500	7	0	3.1	4.4	3.1
SKUN	00	Z	500	7	0	5.5	26.4	25.9
SKUN	12	Z	500	5	0	18.1	42.1	38.0
V2XM	00	Z	500	2	0	1.5	27.5	27.5
V2XM	12	Z	500	2	0	6.5	45.0	44.5
WAAH	00	Z	500	17	0	7.8	32.7	31.8
WAAH	12	Z	500	12	0	3.8	35.0	34.8
WPKD	00	Z	500	8	0	8.6	8.6	0.8
WPKD	12	Z	500	11	0	6.7	6.8	-1.2
ZCBF3	00	Z	500	1	0	0.0	0.0	0.0
ZCBF3	12	Z	500	4	0	18.8	18.8	-1.3
ZCBP6	00	Z	500	9	0	8.7	33.8	32.7
ZCBP6	12	Z	500	7	0	16.1	24.5	18.4
03953	00	Z	500	29	0	5.7	6.0	-1.6
03953	12	Z	500	31	0	7.9	7.9	0.4
04018	00	Z	500	30	0	7.9	9.3	4.9
04018	12	Z	500	27	1	10.7	11.1	2.7
04220	00	Z	500	20	0	11.7	21.8	18.4
04220	12	Z	500	28	0	9.2	14.9	11.8
04270	00	Z	500	22	0	7.0	7.5	2.7
04270	12	Z	500	30	0	10.5	10.5	-1.1
04339	00	Z	500	30	0	14.8	18.2	10.6
04339	12	Z	500	30	0	7.6	9.4	5.6
04360	00	Z	500	19	0	8.8	13.0	9.5
04360	12	Z	500	26	1	7.5	8.6	4.1
08001	00	Z	500	28	0	6.3	6.5	1.7
08001	12	Z	500	29	0	5.4	5.4	0.2
08508	00	Z	500	5	0	4.2	5.8	-4.0
08508	12	Z	500	29	0	7.7	8.9	-4.6
08522	12	Z	500	30	0	4.7	9.5	-8.2
08594	12	Z	500	27	0	4.5	6.6	-4.8
71600	00	Z	500	30	0	17.2	17.8	-4.4
71600	12	Z	500	31	0	6.5	6.5	0.4
72201	00	Z	500	29	0	6.7	6.7	-0.2
72201	12	Z	500	30	0	10.3	10.5	-2.3
72402	00	Z	500	30	0	7.6	10.1	6.7
72402	12	Z	500	31	0	5.1	7.9	6.0
74494	00	Z	500	30	0	6.0	7.5	-4.5
74494	12	Z	500	31	0	6.2	6.3	-0.8
78016	00	Z	500	27	2	10.9	15.1	10.4
78016	12	Z	500	30	0	9.8	14.8	11.1

TABLE 12

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS	:Defined in Appendix I.2	

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBBH	12	V	100	7	0	0	3.8	-0.2	1.9
DBLK	12	V	100	29	0	0	2.2	-0.1	-0.2
EBUQ	12	V	100	13	0	0	5.1	-1.1	-0.1
ELML7	00	V	100	10	0	100	3.0	-0.2	-0.1
ELML7	12	V	100	12	0	100	5.0	1.4	-0.8
FQFL	00	V	100	11	0	0	3.1	-1.0	-0.6
FQFL	12	V	100	11	0	0	3.6	0.0	0.3
FQFM	00	V	100	12	0	0	2.9	0.4	0.2
FQFM	12	V	100	9	0	0	3.5	0.0	0.0
HPII	00	V	100	8	0	0	4.1	1.8	-0.8
HPII	12	V	100	11	0	0	4.5	1.5	0.2
KRPD	00	V	100	7	0	0	3.6	1.2	-0.5
KRPD	12	V	100	6	0	0	2.7	0.4	1.7
LDWR	00	V	100	23	0	0	2.8	-0.6	-0.2
LDWR	12	V	100	23	0	0	2.5	-0.7	0.0
OXVH2	00	V	100	2	0	0	9.4	6.3	-1.8
OXVH2	12	V	100	3	1	0	9.8	1.3	0.7
OXYH2	00	V	100	1	0	0	3.5	3.5	0.4
OXYH2	12	V	100	6	0	0	4.5	0.1	0.8
SKUN	00	V	100	7	0	0	3.6	0.2	1.0
SKUN	12	V	100	5	0	0	2.9	1.9	-0.5
V2XM	00	V	100	2	0	0	4.5	-3.4	-2.3
V2XM	12	V	100	2	0	0	3.6	1.6	-0.8
WAAH	00	V	100	17	0	0	3.9	0.1	-0.7
WAAH	12	V	100	11	0	0	3.9	0.3	0.7
WPKD	00	V	100	8	0	0	4.2	0.5	0.1
WPKD	12	V	100	10	0	0	4.2	0.4	-0.7
ZCBF3	00	V	100	1	0	0	2.8	-2.8	-0.5
ZCBF3	12	V	100	2	0	0	3.8	-2.0	2.1
ZCBP6	00	V	100	8	0	0	2.9	0.0	-0.7
ZCBP6	12	V	100	6	0	0	4.4	0.3	-1.2
03953	00	V	100	27	0	0	3.3	-0.3	0.0
03953	12	V	100	29	0	0	2.5	-0.3	-0.3
04018	00	V	100	28	0	0	2.8	-0.6	-0.5
04018	12	V	100	26	0	0	2.6	0.4	-0.9
04220	00	V	100	19	0	0	2.6	-0.3	-0.5
04220	12	V	100	27	0	0	2.5	-0.9	-0.6
04270	00	V	100	22	0	0	2.8	-0.5	0.6
04270	12	V	100	30	0	0	3.7	-0.6	1.1
04339	00	V	100	25	0	0	4.9	1.7	0.3
04339	12	V	100	26	0	0	4.8	-0.5	1.9
04360	00	V	100	18	0	0	3.8	0.0	-1.0
04360	12	V	100	25	0	0	4.2	-0.4	-0.8
08001	00	V	100	19	0	0	8.5	-4.8	-5.7
08001	12	V	100	26	0	3	9.6	-6.3	-4.1
08508	00	V	100	2	0	0	5.3	-4.8	0.3
08508	12	V	100	16	0	0	3.8	0.5	0.5
08522	12	V	100	28	0	0	4.7	1.4	0.9
08594	12	V	100	24	0	100	4.4	1.1	1.7
71600	00	V	100	30	0	0	3.6	0.2	0.2
71600	12	V	100	31	0	0	3.6	0.3	0.5
72201	00	V	100	28	0	0	3.6	1.6	-1.3
72201	12	V	100	30	0	0	3.3	-0.7	0.8
72402	00	V	100	29	0	0	3.7	-1.1	-0.7
72402	12	V	100	31	0	0	4.0	0.4	1.5
74494	00	V	100	28	0	100	2.7	-0.4	0.0
74494	12	V	100	30	0	100	2.9	0.9	0.3
78016	00	V	100	28	0	0	4.8	-0.7	-0.5
78016	12	V	100	29	0	0	3.9	0.4	0.0

TABLE 13

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Aug 2005

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS:	Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS	:Defined in Appendix I.2	

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBBH	12	V	500	8	0	0	4.1	-0.3	1.7
DBLK	12	V	500	29	0	0	2.7	-0.1	0.1
EBUQ	12	V	500	17	0	0	4.8	0.6	-1.1
ELML7	00	V	500	10	0	100	3.9	-1.6	0.3
ELML7	12	V	500	13	0	92	3.4	0.0	-1.0
FQFL	00	V	500	12	0	0	3.7	-0.8	0.9
FQFL	12	V	500	12	0	0	4.3	0.1	-1.2
FQFM	00	V	500	12	0	0	3.6	0.6	-0.3
FQFM	12	V	500	9	0	0	2.8	0.0	-0.6
HPII	00	V	500	13	0	0	3.9	0.4	0.2
HPII	12	V	500	13	0	0	3.4	-0.3	-0.4
KRPD	00	V	500	6	0	0	2.8	-0.2	-0.1
KRPD	12	V	500	6	0	0	5.9	-2.8	-0.3
LDWR	00	V	500	23	0	0	3.4	0.7	0.7
LDWR	12	V	500	24	0	0	3.6	0.1	-0.2
OXVH2	00	V	500	3	0	0	5.3	3.2	-2.7
OXVH2	12	V	500	5	0	0	3.5	1.2	-0.7
OXYH2	00	V	500	2	0	0	3.6	-3.3	0.4
OXYH2	12	V	500	7	0	0	3.5	1.2	0.3
SKUN	00	V	500	7	0	0	2.5	0.9	0.2
SKUN	12	V	500	5	0	0	5.4	1.9	1.8
V2XM	00	V	500	2	0	0	1.5	0.0	-0.6
V2XM	12	V	500	2	0	0	3.5	1.4	-0.6
WAAH	00	V	500	17	0	0	3.9	0.2	0.5
WAAH	12	V	500	12	0	0	3.8	-1.2	-1.5
WPKD	00	V	500	8	0	0	2.5	0.0	-0.2
WPKD	12	V	500	11	0	0	5.0	0.4	0.6
ZCBF3	00	V	500	1	0	0	1.6	-1.5	0.5
ZCBF3	12	V	500	3	0	0	2.9	-0.8	0.0
ZCBP6	00	V	500	8	0	0	3.3	1.4	-0.7
ZCBP6	12	V	500	7	0	0	4.1	0.7	-0.8
03953	00	V	500	29	0	0	3.2	-0.9	-0.4
03953	12	V	500	31	0	0	3.2	1.0	0.1
04018	00	V	500	30	0	0	4.3	-0.8	0.8
04018	12	V	500	28	0	0	2.9	0.4	-0.5
04220	00	V	500	20	0	0	4.1	-1.3	-0.7
04220	12	V	500	28	0	0	3.7	-0.6	-0.9
04270	00	V	500	22	0	0	3.7	-0.2	0.3
04270	12	V	500	30	0	0	3.8	0.2	0.7
04339	00	V	500	30	0	0	5.4	-0.6	-1.1
04339	12	V	500	29	0	0	3.5	-0.8	-0.4
04360	00	V	500	19	0	0	2.9	0.1	-0.6
04360	12	V	500	26	0	0	5.1	0.0	0.7
08001	00	V	500	28	0	0	5.0	-1.4	-1.5
08001	12	V	500	25	0	0	8.7	-5.0	-4.7
08508	00	V	500	2	0	0	2.3	-1.6	-0.4
08508	12	V	500	17	0	0	2.9	0.1	-0.7
08522	12	V	500	30	0	0	2.9	-0.1	0.5
08594	12	V	500	27	0	0	4.9	1.0	3.1
71600	00	V	500	30	0	0	3.5	0.4	-0.3
71600	12	V	500	31	0	0	4.2	1.1	-1.0
72201	00	V	500	29	0	0	2.9	0.7	0.3
72201	12	V	500	30	0	0	3.6	0.7	0.2
72402	00	V	500	30	0	0	2.4	0.5	0.0
72402	12	V	500	31	0	0	2.6	1.0	0.2
74494	00	V	500	29	0	0	2.4	-0.4	-0.1
74494	12	V	500	30	0	0	2.6	-0.1	0.4
78016	00	V	500	29	0	0	4.1	0.0	-1.0
78016	12	V	500	29	0	0	3.9	-0.1	-0.9

APPENDIX I

1. The gross error limits for observation minus background differences of geopotential height in Tables 5, 10 and 11 are:-

Level (hPa)	Geopotential height (metres)
1000	100
850	100
700	100
500	150
400	175
300	200
250	225
200	250
150	275
100	300
70	375
50	400
30	450

The weighted RMS values used in Table 5,10 and 11 are calculated using the following weights:-

Level (hPa)	Weight
1000	3.70
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

2. The gross error limits for observation minus background differences of windspeed in Tables 6,12 and 13 are:-

Level (hPa)	Windspeed m s^{-1}
1000	35
850	35
700	40
500	45
400	50
300	60
250	60
200	50
150	50
100	45